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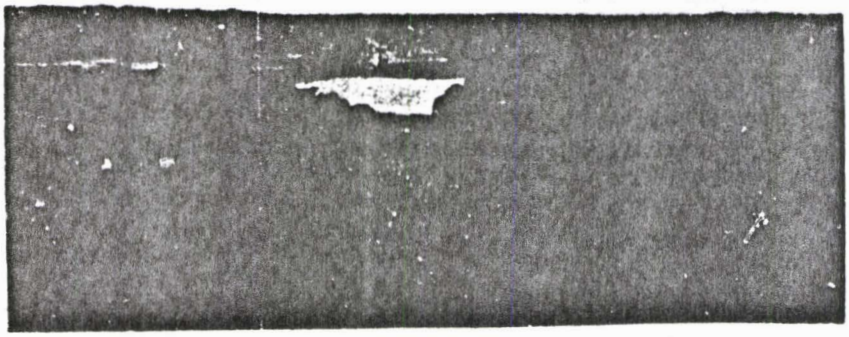
SPECIAL PROJECT REPORT
For
OUTDOOR RECREATION MANAGEMENT
RECREATION SHORT COURSE
DEPARTMENT OF RECREATION & PARK ADMINISTRATION
COLLEGE OF FOREST & RECREATION RESOURCES
CLEMSON UNIVERSITY

SITUATION BRIEFING & MANAGEMENT DIRECTION FOR DEAM WILDERNESS BROWNSTOWN RANGER DISTRICT HOOSIER NATIONAL FOREST



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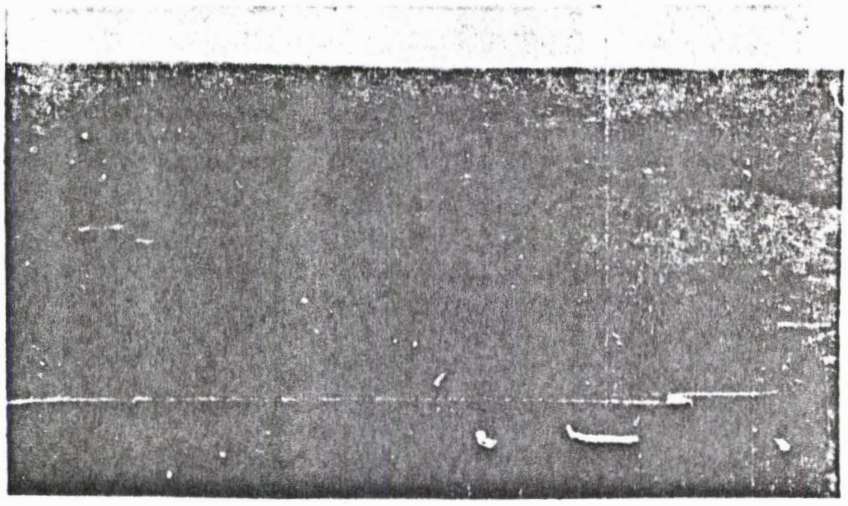

FEBRUARY 1983

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TITLE: *Situation Briefing & Management Direction for the Deam Wilderness*

ABSTRACT: *Senate Bill 2710 designating nearly 13,000 acres of Hoosier National Forest land as a federal wilderness was passed December 22, 1982. This wilderness consists of three areas along the southern shore of Lake Monroe. They are Grubb Ridge; a 6,400 acre RARE II area; Cope Hollow a 3,530 acre RARE II area; and Terrill Ridge at 3,090 acres. Lake Monroe is the largest body of water in the State of Indiana. The area is characterized by a mosaic of beech-maple and oak-hickory hardwood forest. Deer, ruffed grouse, turkey, and many other species of wildlife abound in the area. Recreation activities include backpacking, hunting, fishing, horseback riding, and camping*

The Hoosier National Forest Land Management Plan has been completed in draft form. The draft plan has no management direction for most of this area, other than its RARE II designation. This report will compliment the Forest Land Management Plan and will add management direction internally and externally to an area not specifically delt with in the forest plan.

The purpose of this paper is to evaluate several management alternatives and select the recommended action which will provide the most professional overall management of this area with emphasis on economic and social impacts.

Four management alternatives were evaluated. Effects of alternatives on Forest Service policy congruence, environmental effects, economic returns, meeting of social needs, and enhancing public reaction opportunities were determined. Alternative B "Managing the Wilderness at a level of use commensurate with present use levels" was chosen. This alternative meets the needs of most user groups while still controlling carrying capacity. Environmental impacts are few, and the Benefit/Cost ratio is quite favorable.

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CHAPTER I

INTRODUCTION

The Hoosier National Forest was established in the hilly unglaciated foot hills of Southern Indiana on January 21, 1935. The northern border of this National Forest is 45 miles south of Indianapolis, and the southern edge parallels the Ohio River west of Louisville, Kentucky. There are over six million people risiding in a 200 mile radius of the Hoosier National Forest. Recent years have witnessed an ever growing public demand for the large variety of benefits and uses found on national forest land. Because of the lack of finances and priorities, the Hoosier National Forest has never been able to meet its original goal of a total workable National Forest entity. Many management activities have been restricted by an inadequate and scattered land base.

In 1965, the Land and Water Conservation Act provided monies for an accelerated land acquisition program on the Hoosier. The purchase of recreation potential lands began at the same time a 10,750 acre flood control reservoir was entering its final stages of completion in the northern portion of the National Forest. This reservoir called Lake Monroe, is the largest body of water in the State of Indiana, and has a minimum pool length of 22 miles and a maximum flood pool length of 44 miles. The reservoir contains over 110 miles of shoreline at normal pool of which nearly 35 miles is National Forest land. This area immediately became the number one outdoor recreation attraction in Indiana and remains so today.

A. Physical Characteristics

The rough hilly topography of the Hoosier National Forest is the result of two major glacial periods while moving through Indiana missed this area. This unglaciated area is characterized by limestone, sandstone, and shale deposits. The area is also knowr for its concentration of caves, sinkholes, fossils, and underground streams.

The lack of glacial action has provided the project area with a scenic topography found in very few areas of the state. This area is in the Norman Upland physiographic unit and is characterized by medium textured soils with high timber producing capabilities. The climate is classified as temperate with average summer temperatures of 77° F and average winter temperatures of 34° F. Precipitation averages 44 inches per year with a 16 inch average annual snowfall. The flora of the project area consists of a large variety of tree species including white oak, red oak, hickory, yellow poplar, maple, beech, elm, ash, and black walnut. The spring and early summer flora of flowering dogwood, red bud, and flowering fruit trees creats spectacular scenery. The fall leaf color is very striking and attracts sightseerers from all parts of the state. Game and fish species include quail, rabbits, deer, squirrel, ruffed grouse, turkey, furbearers, waterfowl, songbirds, and numerous sport fish. Monroe Lake is considered one of the better fishing lakes in Indiana. The project area supports one of the largest deer herds includes the only area where both turkey and ruffed grouse are legal to hunt in Indiana.

B. Background

A number of significant factors, internally and externally, have taken place over the past twelve years were responsible for formalizing the final product of the Charles Deam Wilderness. Some of these factors were:

1. *1971 - Each National Forest was instructed by the Chief to list the most scenic and "wild" areas that might possibly be considered for future "Eastern Wild Areas". A 17,500 acre parcel called "Nebo Ridge" was introduced by the Hoosier National Forest. This original proposal included the Grubb Ridge and Terrill Ridge portions of the now Deam Wilderness.*

2. *February 8, 1972 - President Nixon directed Secretary of Agriculture to accelerate the identifying of areas in the East having wilderness potential. Later Senate Bill - 938 was passed for Wilderness Area Reviews in Eastern National Forests.*

3. *July 21, 1973 - A coalition of Indiana Conservation Organizations arranged for a study of the "Nebo Ridge" area to be conducted by Indiana Public Interest Research Group (INPIRG). Two Indiana University students were employed by INPIRG to make this study. Their final report recommended expanding the U.S. Forest Service 17,500 acre proposal of 1971 to 31,800 acres of which 5,100 acres was private land. Representatives of INPIRG hand carried this report to the Senate Interior Committee.*

4. *Fall 1973 - when INPIRG,s release became public, opposition to the inclusion of private land in any wilderness proposal surfaced from local landowners. The opposition group organized and called themselves the Citizens Concerned About Nebo Ridge Area (CCNRA). Early opposition was bitter and emotions ran high as each group polarized themselves on a now full scale forest issue. Local governments, conservation clubs, and environmental groups quickly chose sides as the issue spread into the political arena. Representatives of CCNRA now with considerable support carried their opposition to the Senate Interior Committee.*

5. *1974 - A "Nebo Ridge" Senate Bill proposal was deleted by Chairman Melcher of House Committee of Interior and Insular Affairs due to the controversy involved. The wilderness proponents then agreed to drop 1,000 acres of private land from their original proposal, and introduced a new "compromise" proposal of 30,750 acres.*

6. *August 1977 - In accordance with RARE II instructions Hoosier National Forest personnel held public meetings to update the forest inventory of potential areas to be added to the National Wilderness Preservation System. These public meetings received numerous comments from highly polarized people on both sides of the wilderness issue.*

7. *June 1978 - A feature article entitled "An Eastern Wilderness - Now or Never" appeared in the American Forests magazine, concerning the Wilderness proposal in Indiana (EXHIBIT 1). The issue was now receiving national attention.*

8. *May 1979 - a feature article entitled "Trouble on Nebo Ridge" appeared in the Wilderness Camping magazine concerning the wilderness proposal in Indiana (EXHIBIT II).*

9. June 7, 1980 - Congressman John Sieberling, Chairman of Public Lands subcommittee of House of Representatives personally toured the proposed wilderness area with his staff and Congressman Lee Hamilton of Indiana.

10. November 4, 1981 - Governor Orr of Indiana made public his proposal for a 12,953 acre wilderness in Indiana. This was the compromise position of the two polarized wilderness groups. Governor Orr named his proposal the Charles Deam Wilderness and it included the two RARE II areas of Grubb Ridge and Cope Hollow, plus the Terrill Ridge area.

11. July 1, 1982 - Indiana Senator Lugar and Quayle introduced Senate Bill 2710 to establish a 12,953 acre wilderness (Governor Orr's proposal) in Hoosier National Forest. The Indiana Wilderness was to be named the Charles C. Deam Wilderness.

12. August 12, 1982 - Senate Bill 2710 was approved by U.S. Energy and Natural Resource Committee.

13. October 2, 1982 - Senate Bill 2710 passed the Senate.

14. December 1, 1982 - Indiana Congressmen Hamilton and Deckard introduced House Bill 6728 which was identical to Senate Bill 2710.

15. December 13, 1982 - House Bill 6728 passed House of Representatives.

16. December 22, 1982 - Bill signed by President declaring the 12,953 acre Charles C. Deam Wilderness in Indiana.

While all of these interactions were in process, the Hoosier National Forest personnel were working to complete their draft Land Management Plan. The Grubb Ridge and Cope Hollow RARE II areas were constrained into Goal 9.2 management area description which includes all lands recommended for RARE II, but which have not been officially acted upon. Management direction is to manage these areas at a minimum level while protecting their value. The 2,922 acre Terrill Ridge area was listed as Goal 5.1 management area description which includes lands needed to provide opportunities for solitude or a primitive type of recreation. Management of the Charles C. Deam Wilderness will now be under the wilderness guidelines since the area is now an officially designated Wilderness by Congress.

II. STATEMENT OF PURPOSE

Now that the 12,953 acre area has received the offical Wilderness designation, the Hoosier National Forest will need management direction for the area. The Forest Land Management Plan has not provided specific management direction other than minimum level management. While it is not the intent of this project to provide a detailed management plan for the Charles Deam Wilderness, the objective is to provide a number of different management alternatives and to select the one that is congruent with Forest Service policy, has minimum environmental impacts, has a favorable Benefit/Cost ratio, meets the social needs of the public, and provided the greatest amount of recreational opportunities for the most people within reasonable management guidelines and controls. The selected alternative will form the foundation for a more specific and detailed management direction needed for the most efficient management possible. This direction will lessen the impact of user conflict, protect the resources involved, and monitor carrying capacity for controls. Ecological, social and economics impacts were evaluated in determining the final management direction. This study will compliment the Hoosier National Forest Plan for providing management direction internally and externally to the Charles Deam Wilderness. It is hoped that this direction will be useful to other eastern wilderness managers that encounters similar management problems and opportunities asscciated with them.

III. DEVELOPMENT OF ALTERNATIVES

Four alternatives for managing the Charles C. Deam Wilderness were developed for analysis. They range from no change in present management style underfare II to investigating heavily in capitol improvements and managing at maximum carrying capacity.

MANAGEMENT ALTERNATIVES

ALTERNATIVE A: No change. Manage the wilderness area in present condition and allow use to stabilize without controls or restrictions. Monitor any damage and collect use data. Keep present vehicle access trails to cemetaries open, provide same maintanence on designated hiking and horse trails, provide present type maintenence of wildlife improvements, and provide same fire protection. No additional improvements.

ALTERNATIVE B: Manage for level of use commensurate with present use levels. Solitude or prestine wilderness will not be assured, but appearance of solitude user groups. Carrying capacity will be designed around the needs of the current user groups. Ecological damage and carrying capacity will be monitored closely, and management guidelines will be closely followed. A variety of user levels will be maintained for different user groups. Monitoring and mitigation will be an integral part of management. Vehicle access to cemetaries will be limited and controlled. Minimum maintanence and as near natural as possible identification of trails will be provided. Wildlife improvements such as parking facilities will be provided.

ALTERNATIVE C: Manage for solitude and as near prestine wilderness conditions as possible. Overall carrying capacity will be low and a minimum of user contact will be managed for. Horseback riding will be prohibited. Cemetary access will be prohibited except by foot. Wildlife maintanence will be eliminated and allowed to return to its natural state of succession. Trail maintanence will be held to a minimum. Monitoring and patrolling will be an integral part of management.

ALTERNATIVE D: Manage for a level of high intense use. Use will be permitted to rise until area is it's maximum carrying capacity. Social carrying capacity will be met by most groups. Intensive development of trail system, trail heads, and parking lots would be a part of this alternative. Wildlife habitat improvements and fire protection will be maintained to present levels. Vehicle access to cemetaries will be unrestricted and provided by present trail systems. Ecologiacl damage and capacity will be monitored closely.

ALTERNATIVE A: NO CHANGE - MANAGE AS IS

BENEFITS: Dollar Value To User By RVD's

Dispersed recreation use within the Charles Deam Wilderness is measured in Recreation Visitor Days (R.V.D.'s) complied by Double Sample Information, Trail Counters, and actual 1982 field count information supplied by a Forest Service volunteer. Figures are on record in the Brownstown Ranger District RIM documents.

Dollar values were obtained from the Hoosier National Forest land management planning team and were based on the 1980 update of the Resource Planning Act.

These RPA figures reflect the overall value to the public of the positive benefits under each Alternative for Management of the Charles Deam Wilderness. These public benefits, less associated Forest Service costs of management to produce these benefits results in the overall net public benefit of each alternative. Benefits under this alternative will include minor fishing opportunities, gathering forest products, nature studies, and picnicking. There will be substantial benefits provided from backpacking, horseback riding, hunting, and primative camping opportunities. Costs under this alternative involve general administration, law enforcement, maintanence, supervision, and wildlife improvement, and are fairly routine with other portions of dispersed recreation on this district.

Use	RPA VALUE Per RVD	1982 RIM USE In RVD's	TOTAL VALUE
Fishing (does not include Monroe Reservoir)	$16.30	1,140	$18,582
Gathering Forest Products (includes firewood gatherers)	5.50	4,000	22,000
Hiking and Backpacking	5.50	14,800	81,400
Horseback Riding	5.50	20,700	113,850
Hunting			
Big Game	17.85	7,000	124,950
Upland Birds	21.60	4,000	86,400
All Other	24.00	3,300	79,200
Nature Studies	29.00	1,000	29,000
Picnicking	3.00	600	1,800
Primitive Camping	5.50	19,300	106,150
TOTAL BENEFITS		75,840	$663,332

ASSUMPTIONS:

Scenic driving, although a dispersed recreation use is not attributed to the Wilderness.

Vehicular traffic measured is for access to cemetaries and other uses but not to solely view the Wilderness. No value was given scenic driving.

Even though the Charles Deam Wilderness has been officially designated a national wilderness (As of December 22, 1982), the area will receive no significent increase in recreational use under this alternative. Almost all research eludes to the fact that designating an area Wilderness will increase the use. However, with this alternative there are no controls or restrictions. Vehicle access to cemetaries, and wildlife and trail maintanence will continue. Those persons seeking solitude will quickly find that it is not available while all other user groups will continue at the present rate.

Dispersed Recreation Use within the Charles Deam Wilderness will be uniform from 1983 - 1991, and will conform to the 1982 level.

COSTS:

Dispersed Recreation costs within the Charles Deam Wilderness are taken from the actual 1982 Brownstown Ranger District recreation project work plans and financial records.

1. GENERAL ADMINISTRATION (GA) Ranger and Business Management Assistant - Total allocation = $41,000. Approximately 10% of total GA salary was spent in administering Charles Deam Wilderness area - time included answering inquiries, working with volunteer collecting use data, working with user groups, touring area with groups, etc.

   $41,000 GA Salary x 10% of total time = $4,100

2. LAW ENFORCEMENT AND PATROLS

   Law Enforcement Technician (Forest Service) Salary $23,200
   Coop Agreement with Indiana Department of Natural Resources Conservation Officers = $12,000
   Approximately 20% of total law enforcement time on Brownstown Ranger district was spent in patroling the Charles Deam Wilderness Area - this included enforcing road closures, hunter checks, search and rescue, etc.

   $35,200 Law Enforcement x 20% of total time = $7,040

3. OPERATION AND MAINTENANCE

   Operation and maintenance of dispersed recreation for the Charles Deam Wilderness area includes the Blackwell Horse Camp facilities which impacts the area quite heavily. Other items include mowing and maintenance of Hickory Ridge Fire Tower Site, installation of trash receptacles during hunting seasons, and general site cleanup. Total dispersed recreation operation and maintenance allocation for 1982 - $9,800. 50% of these funds were attributed to the Charles Deam Wilderness Area.

   $9,800 x 50% of total time = $4,900

4. SUPERVISION AND ADMINISTRATION

   Overall supervision and administration of recreation programs on the Brownstown Ranger District. This is the actual budgeted time for the district resource assistant and head recreation supervisory technician that supervises all district recreation activities. Total recreation supervision and administration budget for 1982 - ~~$30,000~~ $41,000
   10% of these funds were attributed to the Charles Deam Wilderness Area.

   $41,000 x 10% of total time = $4,100

5. TRAIL MAINTENANCE

   The Hickory Ridge Hiking trail and Blackwell Horse trail are both located within the Charles Deam Wilderness. They constitute nearly 80% of the Brownstown District trail mainenance budget.
   Total trail maintenance allocation for 1982 - $8,045

   $8,045 x 80% = $6,436

6. *CEMENTARY ACCESS ROAD MAINTENANCE*

Under this alternative access to seven cemetaries within the Charles Deam Wilderness will be maintained. Five of the cemetaries have drivable access and two have walkin access. The drive-in access consists of eight miles of one-lane low standard woods trails with spot gravel and drainage.

Annual maintenance for these trails = $3,000

7. *WILDLIFE HABITAT IMPROVEMENT*

Due to this area having once been old homesteads and the land so badly abused in the early 1900's, wildlife species once native to this area were forced from their original habitat by the encroachment of man and his activities. To the extent that this is the only designated wilderness within an area of intense public pressure and population, it is imperative that some degree of vegitative manipulation be provided for wild turkey, to assure its existance within the project area. The Charles Deam Wilderness is one of the original release sites for the reestablishment of wild turkey on the Hoosier National Forest. As Exhibit V shows, this area is presently one of the few areas of concentrated wild turkey habitat in Indiana. This minor wildlife maintenance can be accomplished without any damage to the wilderness values of the area, will accomplish the desired objective, is a result of man's influence, and will promote the perpetuation of a species of native wildlife once extinct due to man'a influence. This project will require Chief's approval.

There are a total of 89 wildlife water holes and 253 wildlife openings (551 acres) within the Charles Deam Wilderness. With a maintenance schedule of removing woody vegitation from pond banks once every ten years, and clearing wildlife openings once every fifth year, the following wildlife habitat costs are incurred in this alternative. Costs provided by District Wildlife Biologist and Indiana Department of Natural Resources Wildlife Biologist. Average cost for clearing wildlife waterholes are $75/waterhole. Average costs for maintaining existing wildlife openings are $85/acre.

89 waterholes x 0.10 maintained per year = 8.9 waterholes/annually
8.9 waterholes x $75/waterholes = $667.50
551 acres of wildlife openings x 0.20 maintained per year = 110
Acres of wildlife habitat maintained/annually
110 acres of openings x $85/acre = $9,350
TOTAL $10,017

8. *MAJOR IMPROVEMENTS*

There are no major improvements to be constructed with this alternative

TOTAL COSTS	*$39,593*

ALTERNATIVE A TOTALS

Benefits: *$663,332* *Costs:* *$39,593*

ASSUMPTION: *Benefits and costs will remain the same each year through the ten year period.*

DEAM WILDERNESS

ALTERNATIVE A: NO CHANGE - MANAGE AS IS

BENEFITS	82	83	84	85	86	87	88	89	90	91	TOTAL
Fishing	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$185,820
Gath.For.Prod.	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$220,000
Hike-Backpack	$81,400	$81,400	$81,400	$81,400	$81,400	$81,400	$81,400	$81,400	$81,400	$81,400	$814,000
Horseback Riding	$113,850	$113,850	$113,850	$113,850	$113,850	$113,850	$113,850	$113,850	$113,850	$113,850	$1,138,500
Hunting	$290,550	$290,550	$290,550	$290,550	$290,550	$290,550	$290,550	$290,550	$290,550	$290,550	$2,905,500
Nature Studies	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$290,000
Picnicking	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$18,000
Prim. Camp	$106,150	$106,150	$106,150	$106,150	$106,150	$106,150	$106,150	$106,150	$106,150	$106,150	$1,061,500
TOTAL	$663,332	$663,332	$663,332	$663,332	$663,332	$663,332	$663,332	$663,332	$663,332	$663,332	$6,633,320
COSTS											
GA	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$41,000
Law Enf.	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$70,400
O&M	$4,900	$4,900	$4,900	$4,900	$4,900	$4,900	$4,900	$,900	$4,900	$4,900	$49,000
Supervision	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$41,000
Trail Mntce.	$6,436	$6,436	$6,436	$6,436	$6,436	$6,436	$6,436	$6,436	$6,436	$6,436	$64,360
Cem. Access	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$30,000
Wildlife Mntce.	$10,017	$10,017	$10,017	$10,017	$10,017	$10,017	$10,017	$10,017	$10,017	$10,017	$100,170
Improvements	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-
TOTAL	$39,593	$39,593	$39,593	$39,593	$39,593	$39,593	$39,593	$39,593	$39,593	$39,593	$395,930

ALTERNATIVE B: **MANAGE AS WILDERNESS FOR LEVEL OF USE COMMENSURATE WITH PRESENT USE LEVELS.**

BENEFITS: Dollar Value To User by RVD'S

All use figures are similar to Alternative A except the following 1983-1991 use figures will differ:

1. Gathering Forest Products 50% decrease

1982 value $22,000 x 0.50 =	$11,000
50% decrease due to elimination of fire wood gatherers	

2. Hiking and Backpacking 25% increase

1982 value $81,400 x 1.25 =	$101,750
25% increase due to new wilderness disignation	

3. Horseback Riding 10% increase

1982 value $113,350 x 1.10 =	$125,235
10% increase due to wilderness riding experience	

4. Hunting 10% decrease

1982 value $290,550 x 0.90 =	$261,495
10% decrease due to limited vehicle access	

ASSUMPTION:

All other use figures will conform to the 1982 level.

TOTAL BENEFITS:	$655,012

ASSUMPTIONS:

The recent designation of the area as wilderness (December 22, 1982) in conjunction with the area being managed and signed as Wilderness will increase the use by different user groups desiring the wilderness attributes. (Hendee, Stankey and Lucas 1978) (Wilderness Camping - May 1979 issue).

COSTS:

All cost figures are similar to Alternative A except the following 1983 - 1991 figures will differ:

Cost figures provided by Recreation Staff Officer, Bart Bertolino, in his 2320 Wilderness memo of 7/28/82, to the forest supervisor, Hoosier National Forest.

1. Monitoring and Patrols

In addition to the present costs for law enforcement, operation and maintenance, and supervision, a wilderness ranger position will be needed during the peak use periods - spring and fall to manage and monitor the area closely for this alternative.

GS-7 Wilderness Ranger - 1/2 year	$10,000
Vehicle, radio, and equipment for wilderness ranger (includes 4 additional trail counters)	5,000

2. *Limited Cemetary Access*

A minimum of 6 metal gates will need to be installed to limit access to the cemetaries. The cost of installing a metal gate to present Forest Service standards is $500 per gate including the materials.

6 gates x $500 each = $3,000

3. *Operation and Maintenance*

Maintaining the wilderness area will double due to the additional trail heads, parking lots, and toilet facilities.

1982 level of cost $4,900 x 2 = $9,800

4. *Improvements*

Three trail heads with 10 car parking lots, sanitary facilities, information signs, and self registration devices will be part of this alternative plus facilities at Hickory Tower parking lot. Forest engineering input indicates that clearing, grading, seeding, stone, etc. = Average cost $600/car.

3 trail heads x 10 car parking lots each = 30 car parking	
30 car parking x $600/car =	$18,000
Need 11A style toilet facilities at Hickory Tower parking area	$10,000
Need 12A style toilet facilities at 3 new trail heads ($1000/each)	3,000
4 trailhead signs and registration device at $500 each (for both) installed - 4 signs and booths x$500 each =	2,000
Maps and brochures for trail head 20,000 copies/year =	5,000

ASSUMPTION: All other cost figures will conform to the 1982 level

TOTAL COSTS: $100,493

ALTERNATIVE B TOTALS

BENEFITS: $655,012 *COSTS:* $100,493 ~~$85,593~~

ASSUMPTION: Benefits and costs will remain uniform through the 10 year period. Maps and brochures will be needed annually. 1983 improvement costs will receive a 15% replacement value per year for annual long term maintenance and upkeep of signs, etc.

Past history has shown the average life expectancy of gates on the Brownstown District in the wilderness area is one year.

Maps and brochures	$5,000
Improvement Value $33,000 x 0.15=	5,000
	$10,000

1984 - 1991

DEAM WILDERNESS

ALTERNATIVE B: Manage As Wilderness For D[illegible]. Of Use Commensurate With Present Use Level

BENEFITS	82	83	84	85	86	87	88	89	90	91	TOTAL
Fishing	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$185,820
Nath.For.Prod.	$22,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$121,000
Hike-Backpack	$81,400	$101,750	$101,750	$101,750	$101,750	$101,750	$101,750	$101,750	$101,750	$101,750	$997,150
Horseback Riding	$113,850	$125,235	$125,235	$125,235	$125,235	$125,235	$125,235	$125,235	$125,235	$125,235	$1,240,965
Hunting	$290,550	$261,495	$261,495	$261,495	$261,495	$261,495	$261,495	$261,495	$261,495	$261,495	$2,644,005
Nature Studies	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$290,000
Picnicking	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$18,000
Primitive Camp	$106,150	$106,150	$106,150	$106,150	$106,150	$106,150	$106,150	$106,150	$106,150	$106,150	$1,061,500
TOTAL	$663,332	$655,012	$655,012	$655,012	$655,012	$655,012	$655,012	$655,012	$655,012	$655,012	$6,558,440
COST											
NA	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$41,000
Law Enf.	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$70,400
O&M	$4,900	$9,800	$9,800	$9,800	$9,800	$9,800	$9,800	$9,800	$9,800	$9,800	$93,100
Supervision	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$41,000
Trail Mntce.	$6,436	$6,436	$6,436	$6,436	$6,436	$6,436	$6,436	$6,436	$6,436	$6,436	$64.360
Cem. Access	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$30,000
Wildlife Mntce.	$10,017	$10,017	$10,017	$10,017	$10,017	$10,017	$10,017	$10,017	$10,017	$10,017	$100,170
Improvements	-0-	$38,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$118,000
Rates	-0-	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$27,000
Monitoring	-0-	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$135,000
TOTAL	$39,593	$100,493	$72,493	$72,493	$72,493	$72,493	$72,493	$72,493	$72,493	$72,493	$720,030

MANAGE FOR SOLITUDE

ALTERNATIVE C:

BENEFITS: Dollar Value To User by RVD's

All use figures are similar to Alternative A except the following 1983-1991 use figures will differ:

1. Gathering Forest Products - will show a 50% decrease due to elimination of fire wood gatherers
   1982 value $22,000 x 0.50 = $11,000

2. Hiking and Backpacking - will show a 50% increase due to prestine and most solitude type experience available in Indiana.
   1982 value $81,400 x 1.50 = $122,100

3. Horseback Riding - will be eliminated under this alternative
   1982 value $113,850 x 0 = -0-

4. Hunting - will show a 25% decrease due to area being restricted to foot only (many hunters in 1982 value level used cemetary access trail)
   1982 value $290,550 x 0.75 = $217,912

5. Primitive Camping - will show a 67% decrease due to the fact that 1/3 of primitive campers were hunters, 1/3 horseback riders and 1/3 backpackers
   1982 value $106,150 x 0.33 = $35,030
   Note item 2 above showed average increase of 50% for backpackers
   $35,030 x 1.50 (to cover projected increase) $52,545

ASSUMPTION: All other use figures will conform to 1982 level.

TOTAL BENEFITS: $452,939

COSTS:

All cost figures are similar to Alternative A except the following 1983 - 1991 figures will differ:

Cost figures provided by Hoosier National Forest Recreation Staff Officer, Bart Bertolino in his 2320 Wilderness memo of 7/28/82 to the forest supervisor.

1. Monitoring and Patrol

   A full time wilderness ranger will be needed to monitor use, patrol and assist in maintaining and solitude type experience in this alternative.

   GS-7 Wilderness Ranger (full time) $20,000
   Vehicle, radio and monitoring equipment $10,000

2. Operation and Maintenance - maintaining the wilderness area will triple from the 1982 level due to the numerous scattered trail heads, toilet facilities, and foot access for interior signs, etc.
1982 level of cost $4,900 x 3 — $14,700

3. Trail Maintenance - The Hickory Ridge Hiking trail will be maintained at a natural state and low standards, the Blackwell Horse Trail will need to be eliminated and all trail signs and markers taken down. Due to lack of access trail maintenance costs will double. Thus with elimination of horse trail maintenance overall trail costs will remain the same. — $6,436

4. Cemetery Access Roads- this access will be eliminated by gates, however trails will remain in place maintained at very low standards for emergency use only.
1982 level of costs $3,000 x 0.50 = — $1,500

5. Wildlife Habitat Improvement - all future wildlife habitat improvement will be eliminated under this alternative.
1982 level of cost $10,017 x 0 = — -0-

6. Limited Access to Area- all possible motor vehicle access points to the Charles Deam Wilderness interior will be gated.
14 possible present access trails exist
14 gates x $500 each = — $7,000

7. Improvements - six trail heads with 10 car parking lots, sanitary facilities, information signs and registration devices will be needed counting facilities at Hickory Ridge Tower Site.

6 trail heads	
60 car parking x $600 per car =	$36,000
Need two 11A style toilet facilities = ($10,000 each)=	$20,000
Need four 12A style toilet facilities ($1,000 each)	4,000
Need six trailhead signs and registration devices	
$500 per set installed x 6	3,000
Maps and brochures for trail head - 20,000 copies/year =	5,000

ASSUMPTION: All other cost figures will conform to 1982 level

TOTAL COSTS: $142,876

ALTERNATIVE C TOTALS

BENEFITS: $452,939 COSTS: $142,876

ASSUMPTIONS: Benefits and costs will remain uniform through the 10 year period except for:

Maps and brochures will be needed annually.
1983 improvement costs will receive a 15% replacement value per year for annual long term maintenance and upkeep of signs, etc. Past history has shown the average life expectancy of gates in the wilderness area is one year.

Maps and brochures	$5,000
Improvement Value 63,000 x 0.15	9,500
	$14,500

ALTERNATIVE C: Manage For Solitude

BENEFITS	82	83	84	85	86	87	88	89	90	91	TOTAL
Fishing	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$185,82[illegible]
Gath.For.Prod.	$22,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$121,00[illegible]
Hiking & Backpack	$81,400	$122,100	$122,100	$122,000	$122,000	$122;100	$122,100	$122,100	$122,100	$122,100	$1,180,300
Horseback Riding	$113,850	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	$113,85[illegible]
Hunting	$290,550	$217,912	$217,912	$217,912	217,912	$217,912	$217,912	$217,912	$217,912	217,912	$1,251,7[illegible]
Nature Studies	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$290,000
Picnicking	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$18,000
Primitive Camp	$106,150	$52,545	$52,545	$52,545	$52,545	$52,545	$52,545	$52,545	$52,545	$52,545	$579,05[illegible]
TOTAL	$663,332	$452,939	$452,939	$452,939	$452,939	$452,939	$452,939	$452,939	$452,939	$452,939	$4,739,7[illegible]
COSTS											
GA	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$41,000
Law Enf.	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$70,400
Monitoring	-0-	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$270,000
O&M	$4,900	$14,700	$14,700	$14,700	$14,700	$14,700	$14,700	$14,700	$14,700	$14,700	$137,200
Supervision	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$41,000
Trail Mntce	$6,436	$6,436	$6,436	$6,436	$6,436	$6,436	$6,436	$6,436	$6,436	$6,436	$64,360
Cem. Access	$3,000	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$16,500
Wildlife Mntce.	$10,017	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	$10,017
Gates	-0-	$7,000	$7,000	$7,000	$7,000	7,000	$7,000	$7,000	$7,000	$7,000	$63,000
Improvements	-0-	$68,000	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$184,000
	$39,593	$142,876	$89,376	$89,376	$89,376	$89,376	$89,376	$89,376	$89,376	$89,376	$897,477

ALTERNATIVE D: Manage For High Intensive Use

BENEFITS: Dollar Value to User by RVD's

All use figures are similar to Alternative A except the following 1983-1991 use figures will differ:

1. Gathering Forest Products - will show a 50% decrease due to elimination of firewood gatherers
   1982 value $22,000 x 0.50 = $11,000

2. Hiking and Backpacking - will show a 25% increase due to wilderness designation (but lacks solitude type experience)
   1982 value $81,400 x 1.25 $101,750

3. Horseback Riding - will show 25% increase due to wilderness designation
   1982 value $113,850 x 1.25 = $142,312

4. Primitive camping - will show 25% increase due to substantial increase in hikers and horseback riders.
   1982 value $106,150 x 1.25 $132,688

ASSUMPTION: All other use figures will conform to 1982 level.

TOTAL BENEFITS: $727,682

COSTS:

All cost figures are similar to Alternative A except the following 1983 - 1991 figures will differ:
Cost figures provided by Hoosier National Forest Recreation Staff Officer, Bart Bertolino, in his 2320 Wilderness memo of 7/28/82 to the forest supervisor.

1. Monitoring and Patrols - a full time wilderness ranger will be needed to monitor use, patrol, and assist in maintaining area for this Alternative.
   GS-7 Wilderness Ranger (full time) $20,000
   Vehicle, radio and monitoring equipment $10,000

2. Operation and Maintenance - maintaining the wilderness area will triple from 1982 level due to numerous scattered trail heads, toilet facilities, and increased use.
   1982 level of cost $4,900 x 3 $14,700

3. Trail Maintenance - trail maintenance within the wilderness area will double from 1982 level due to increased use under this alternative.
   1982 level of cost $6,436 x 2 = $12,872

4. Improvements- Six trail heads with 10 car parking lots, sanitary facilities, information signs and registration devices will be needed including facilities at Hickory Ridge Tower Site.

   Six Trail Heads - 60 car parking x $500/car = $36,000
   Need two 11A style toilet facilities @ $10,000 each = $20,000
   Need four 12A style toilet facilities @ $1,000 each 4,000
   Need six trailhead signs and registration devices

$500 per set installed x 6 =	$3,000
Maps and brochures for trail heads - 20,000 copies/year =	$5,000

ASSUMPTION: All other cost figures will conform to 1982 level

TOTAL COSTS: $153,829

ALTERNATIVE D TOTALS

BENEFITS: $727,682 COSTS $153,829

ASSUMPTION: Benefits and costs will remain uniform through the 10 year period, except for:

Maps and brochures will be needed annually.
1983 improvement costs will receive a 15% replacement value per year for annual long term maintenance and upkeep of signs, etc.

Past history has shown the average life expectancy of gates in the wilderness area is one year.

Maps and brochures	$5,000
Improvement value $63,000 x 0.15	$9,500
	$14,500

1984 - 1991

DEAM WILDERNESS

ALTERNATIVE D: Manage For High Intensive Use

BENEFITS	82	83	84	85	86	87	88	89	90	91	TOTAL
Fishing	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$18,582	$185,820
Oth. For Prod.	$22,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$121,000
Hiking-Backpack	$81,400	$101,750	$101,750	$101,750	$101,750	$101,750	$101,750	$101,750	$101,750	$101,750	$997,150
Horseback Riding	$113,850	$142,312	$142,312	$142,312	$142,312	$142,312	$142,312	$142,312	$142,312	$142,312	$1,394,658
Hunting	$290,550	$290,550	$290,550	$290,550	$290,550	$290,550	$290,550	$290,550	$290,550	$290,550	$2,905,500
Nature Studies	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$29,000	$290,000
Picnicking	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$18,000
Primitive Camp	$106,150	$132,688	$132,688	$132,688	$132,688	$132,688	$132,688	$132,688	$132,688	$132,688	$1,300,342
	$663,332	$727,682	$727,682	$727,682	$727,682	$727,682	$727,682	$727,682	$727,682	$727,682	$7,212,470
COSTS											
EA	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$41,000
Law Enf.	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$7,040	$70,400
Monitoring	-0-	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$270,000
O&M	$4,900	$14,700	$14,700	$14,700	$14,700	$14,700	$14,700	$14,700	$14,700	$14,700	$137,200
Supervision	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$4,100	$41,000
Trail Mntce.	$6,436	$12,872	$12,872	$12,872	$12,872	$12,872	$12,872	$12,872	$12,872	$12,872	$122,284
Com. Access	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$30,000
Wildlife Mntce	$10,017	$10,017	$10,017	$10,017	$10,017	$10,017	$10,017	$10,017	$10,017	$10,017	$100,170
Improvements	-0-	$68,000	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$14,500	$184,000
TOTAL	$39,593	$153,829	$100,329	$100,329	$100,329	$100,329	$100,329	$100,329	$100,329	$100,329	$995,784

EVALUATION CRITERIA

The four management alternatives were applied against the following five evaluation criteria:

1. Policy - Congruence - Contemplated actions must be congruent with established Forest Service Policy and Chief's direction. Action must provide benefits identifie as needed and in the public interest.

No Compliance — Full Compliance

0 — "A" 2 — 4 — "D" 6 — "C" 8 — "B" 10

A. (2) This alternative is not in accordance with Forest Service direction to preserve the wilderness character of any area designated Wilderness.

B. (8) This alternative keeps in mind to preserve the wilderness character while still managing for the greatest good to the most people.

C. (6) This alternative favors the preserving of the wilderness character but many user groups will be restricted use.

D. (5) This alternative is not fully meeting policy direction in preserving wilderness character.

2. Environmental Effects - Contemplated actions should be neutral or beneficial in their environmental effects.

Points are based on the following index: 2 = No significant adverse impact; 1= Minor adverse impact; 0 = Major adverse impact.

ALTERNATIVE	AESTHETICS	AIR	SOILS	TIMBER	WATER	WILDLIFE	TOTAL
A	1	2	0	2	0	1	6
B	2	2	1	2	1	2	10
C	2	2	2	2	2	1	11
D	1	2	1	2	1	2	9

3. Economics - Benefits/Cost Ratio - Contemplated actions should have the characteristi of economic efficiency in that benefits out weigh costs..

Points are based on the following benefit/cost analysis:

0.00 - 0.99 = 0
1.00 - 1.99 = 1
2.00 - 2.99 = 2
3.00 - 3.99 = 3
4.00 - 4.99 = 4
5.00 - 5.99 = 5 Alternative C 5.34
6.00 - 6.99 = 6
7.00 - 7.99 = 7 Alternative D - 7.26
8.00 - 8.99 = 8
9.00 - 9.99 = 9 Alternative B - 9.14
10.00 + = 10 Alternative A - 16.75

4. Meets Social Needs - Contemplated action should not impose undue [illegible] external impacts.

Points are based on the following material:

Doesn't Meet Needs					Fully Meets Needs
		"A"	"C" "D"		"B"
0	2	4	6	8	10

"A" (4) While this alternative may be the wishes of some of the local people, it does not represent the wishes of the State Governor, or the Federal representatives nor the numerous environmental organizations who pushed long and hard for a wilderness in Indiana.

"B" (9) This alternative will most likely satisfy most user groups. The primary user this will be disappointed is the group that desire prestine or solitude experience.

"C" (6) This alternative will greatly distuch the horse back rides and will cause some concern with the hunters. These two user groups make up nearly 50% of all users.

"D" (6) This Alternative will result in numerous use conflicts due to small area carrying such a high level of intensive use.

EVALUATION CRITERIA

5. Enhances Public Recreation Opportunity

Points are based on the following projected thousands of recreation visitor days (RVD's) for the period 1982 - 1991:

1 - 9,999 = 1	50,000 - 59,999 = 6
10,000 - 19,999 = 2	60,000 - 69,999 = 7
20,000 - 29,999 = 3	70,000 - 79,000 = 8
30,000 - 39,999 = 4	80,000 - 89,999 = 9
40,000 - 49,999 = 5	90,000 + = 10

RECREATION VISITOR DAYS (RVD'S) BY ALTERNATIVE

USE	ALTERNATIVES A	B	C	D
Fishing	1,140	1,140	1,140	1,140
Gath. For Products	4,000	(x.50) 2,000	(x.50) 2,000	(x.50) 2,000
Hike & Backpack	14,800	(x1.25) 18,500	(1.50) 22,200	(x1.25) 18,500
Horseback Riding	20,700	(x1.10) 22,770	-0-	(x1.25) 25,875
Hunting	14,300	(x.90) 12,870	(x.75) 10,725	14,300
Nature Studies	1,000	1,000	1,000	1,000
Picnicking	600	600	600	600
			(x.33) (6369)	
Primitive Camp	19,300	19,300	(x.1.50) 9,554	(1.25) 24,125
TOTALS	75,840	78,180	47,219	87,540

ALTERNATIVE COMPARISON CHART BY EVALUATION CRITERIA POINTS

EVALUATION CRITERIA	ALTERNATIVES A No Change-Manage As Is	B Level of Use Comensurate W/Present Use Level	C Manage For Solitude	D Manage For High Intensive Use
Policy Congruence	2 points	8 points	6 points	5 points
Environmental Effects	6 points	10 points	11 points	9 points
Economics Benefit/Cost	10 points	9 points	5 points	7 points
Meets Social Needs	4 points	9 points	6 points	6 points
Enhances Public Rec. Opportunities	8 points	8 points	5 points	9 points
TOTAL POINTS	30 Points	44 Points	33 Points	36 Points

TOTAL POINTS POSSIBLE 52

ALTERNATIVE RANK BY				
TOTAL POINTS	(4)	(1)	(3)	(2)

SUMMARY OF ALTERNATIVE COMPARISON BY EVALUATION CRITERIA POINTS

ALTERNATIVE A

This alternative complies the least with the Forest Service policy due to lack of management controls and/or restrictions in Wilderness management. This lack of management controls resulted in major impact on environmental effects. By having no restrictions or controls, there are no major costs involved, thus with the high level of present use the Benefit-Cost ratio looks very positive. However, an unusually high Bebefit-Cost ratio such as we have in this Alternative usually indicates lack of controls - which is exactly the case here. This alternative meets the fewest social needs as it is contradictory to the intent of establishing the Deam Wilderness in Indiana. This alternative generates a reasonably high level of public recreation opportunities. Overall this Alternative has the lowest point total in three evaluation criteria, the highset in one which was misleading as explained, and favorable in the remaining one. The total rating is the lowest of all alternatives.

ALTERNATIVE B

This alternative meets the needs of most user groups while still controlling carrying capacity and monotoring the area closely, this is a requirement in meeting Forest Service policy. Environmental effects are positive but there will be some soil movements and siltation due to heavy use on over forty miles of trail system within the wilderness area. The Benefit-Cost ratio is quite high and is most favorable under controlled conditions. This alternative generates a reasonably high level of public recreation opportunities. Overall this alternative has the highest point total in two evaluation criteria, and the second highest in the remaining three. The total rating is the highest of all alternatives.

ALTERNATIVE B IS THE PREFERRED ALTERNATIVE

ALTERNATIVE C

This alternative while meeting the most pure wilderness requirements, places such restrictions on the many different user groups that it will result in strong opposition from the horseback riders and hunters. This does not meet with policy direction of the greatest good for the most people. Environmental effects are most favorable in this alternative. The Benefit-Cost ratio is the lowest in this alternative primarily due to the loss of horseback riding and hunter RVD'S. This alternative generates the lowest level of public recreation opportunities. Overall this alternative has the highest point in one evaluation criteria, but the lowest point total in two others and average in the remaining two. The total rating is the second lowest of all alternatives.

ALTERNATIVE D

This alternative meets the needs of most user groups but the area will loose many of its wilderness attributes by allowing use to raise to maximum carrying capacity in all areas. This will also result in some user comflict. There will be environmental impacts on soil movements, siltation, and sanitary and trash due to high intensity of use. The Benefit-Cost ratio is fairly good due to higher benefits fron maximum users. This alternative generates the highest level of public recreation opportunities.

Overall this alternative has the highest point total in one evaluation criteria and average in the remaining four. The total rating is second highest of all alternatives.

RESEARCH NEEDS

An attempt was made to determine what the recreation user of the Charles Deam Wilderness really desires in his recreation experience. Numerous users were contacted during 1982. However, these contacts primarily involved visitors along primary travel routes, Blackwell Horseman Parking Area and Hickory Tower Parking Area. More research is needed in wilderness users wants in Indiana.

This project is designed with considerable emphasis on carrying capacity limits and monitoring of use. The amount and character of use an area can sustain over a specified period of time cannot be constructed until it is determined what constitutes unacceptable change to the experience of the user. If we are managing for the recreational experience of wilderness and the maintenance of the wilderness environment, a determination should be made as to physical environment versus social environment or any form of their combination. Social carrying capacity is many times more limiting than physical. More research is undertaken in monitoring wilderness use after implementation of the selected management alternative to determine its impact. Are most user groups pleased with the implementation of the new management techniques? Are invested capital improvements worth the end result? Wilderness managers must rely on sound professional judgement, available information, and the goals and objectives established for managing the wilderness.

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21. *Weis, Chuck, Trouble on Nebo Ridge, April/May 1979. Wilderness Camping.*

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EXHIBIT I

Right: landowners in Nebo Ridge, Indiana, fear their property might be taken by the Forest Service—despite the fact that only 100 acres of private land are proposed for Wilderness designation

by Randy Hyman

This rugged chunk of woodland deserves special status. The law permits it, and increasing abuse of the land makes the timing critical

AN EASTERN WILDERNESS

THE THREAT is great, and the time is short. Easily accessible to millions of outdoor-minded people, the northern portion of Hoosier National Forest is within a five-hour drive of one out of 10 Americans. Indiana conservationists consider this the only viable location in the entire Hoosier State for an Eastern Wilderness Area. Most of this gracefully carved hardwood hill country is still wild and undisturbed. So far.

Hoosier National Forest personnel, responding to the ever-increasing demand for wood products, have clearcut acres of these forested hills for commercial sale. And Hoosier Forest officials, yielding to the oil companies' push for increased drilling rights, had once planned to lease as many as 140,000 acres of this same land to petroleum corporations. (These plans have been halted.) The final strike: several years ago, professional geologists recommended this area as one of the best sites in the Midwest for the storage of nuclear wastes. Three strikes and you're out.

Some Americans, faced with an energy crisis, forget that we also suffer from a wilderness crisis. *Some* forget, but not the members of the Indiana Wilderness Committee (IWC). Like many similar groups across the nation, they are working toward a local solution to the wilderness crisis.

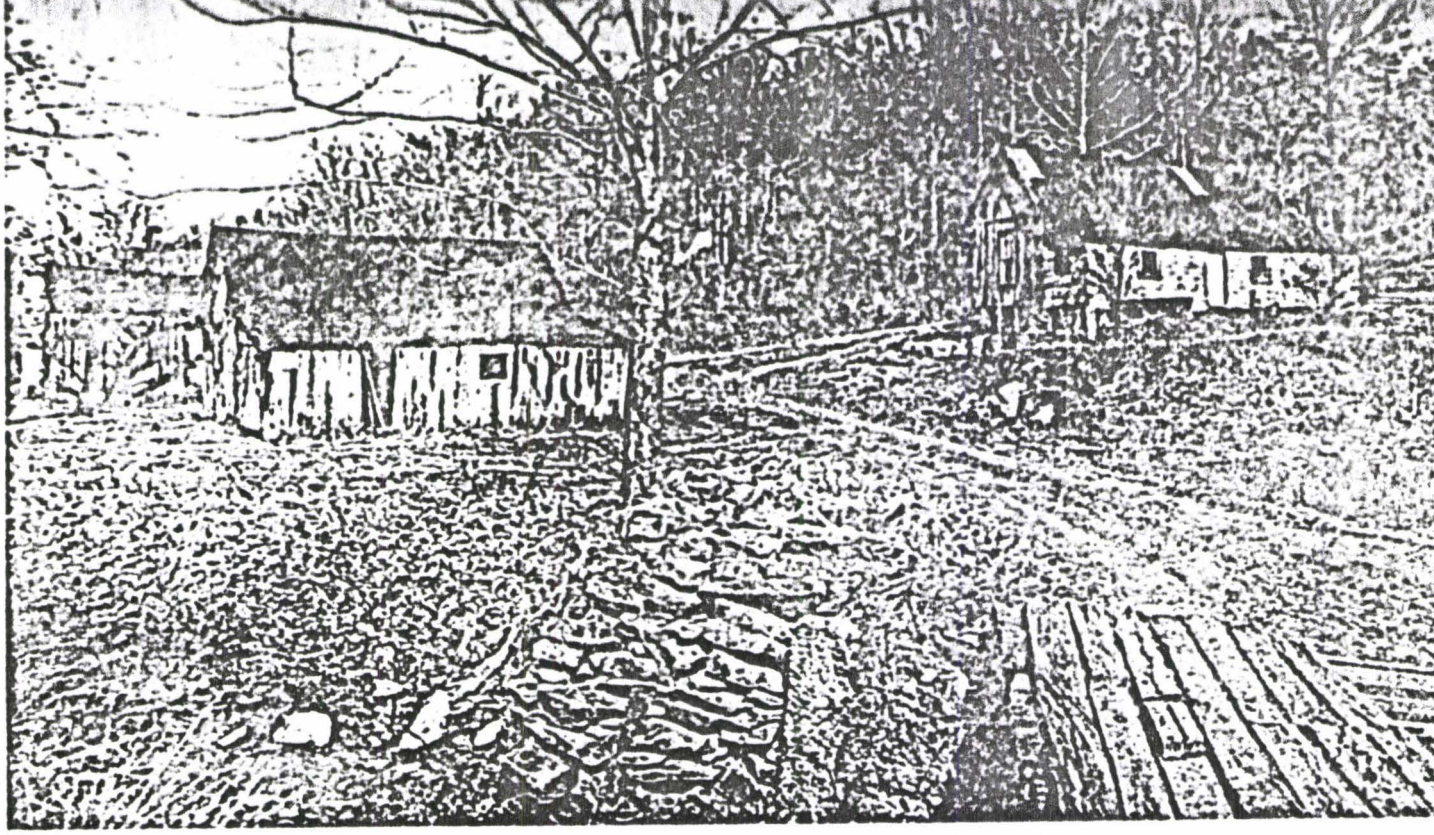
Marvin Doliana, chairman of the group, explains, "We want to save this last piece of Indiana wilderness before it's too late. The heavy demands on the Forest Service for multiple-resource use make it difficult for them to protect wilderness as a resource. There are a lot of dedicated foresters who love the woods, but they don't have the control they once had. So when the order comes to cut, you *cut*—regardless of the stakes. If this area is made part of the Eastern Wilderness Area System, the Forest Service will be able to provide pure wilderness protection with no conflict of interest."

To date, the IWC has developed three different wilderness proposals. The first two proposals were for Wilderness Study Areas, but the third and most recent is for an immediate Wilderness Area. As a Study Area, the site would have undergone as much as 10 years of review before Congress could have granted it full Wilderness Area status. But as a Wilderness Area, Congressional approval would grant the site immediate and permanent protection under the Eastern Wilderness Areas Act (EWAA).

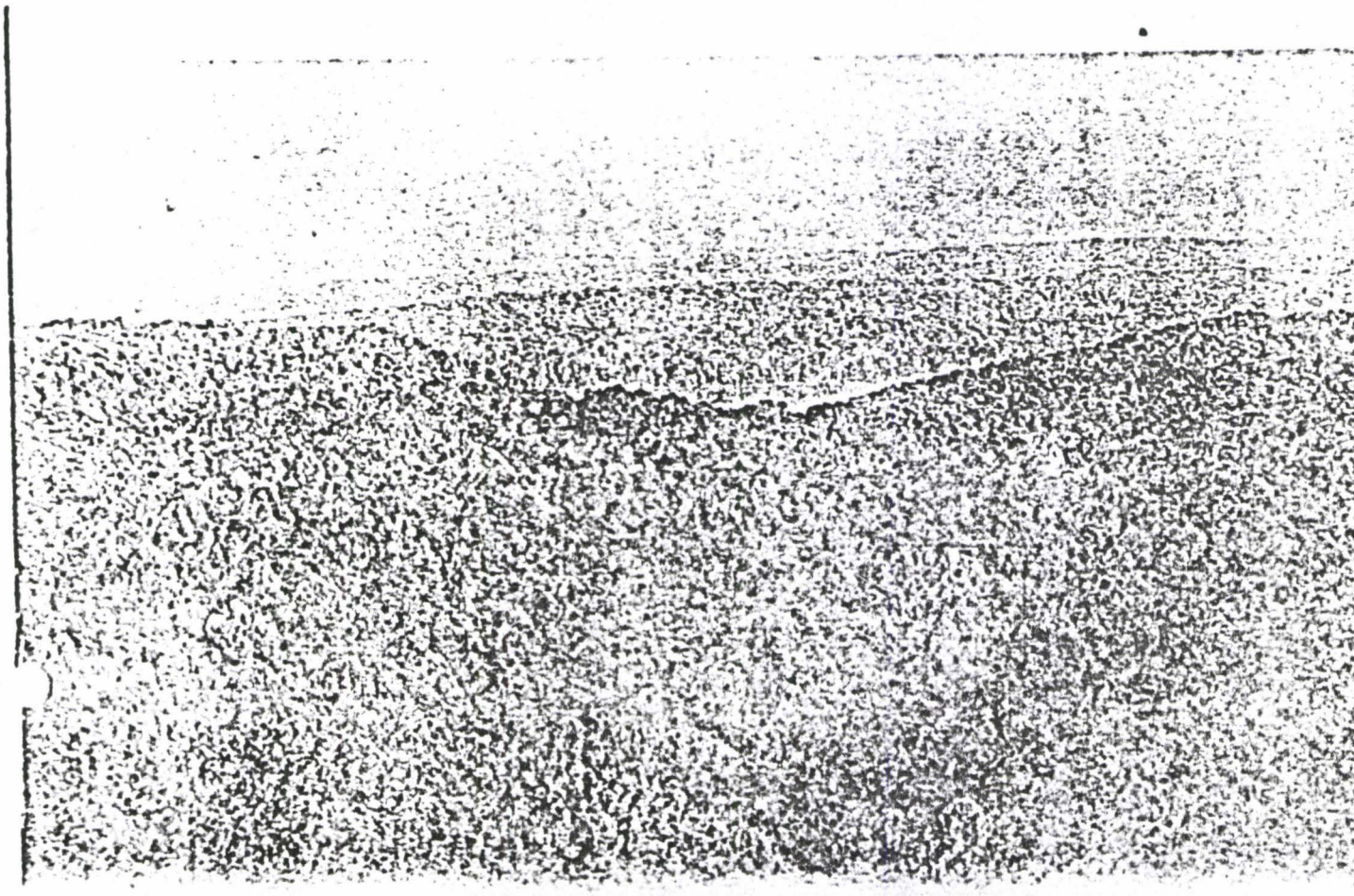
The first proposal of 1973, the

Randy Hyman is a freelance writer and photographer covering outdoor and environmental subjects. He is a member of the Nebo Ridge Speakers Bureau, representing the case for an Indiana Wilderness.

Right: autumn changes the colors of the hills in the area proposed for an Eastern Wilderness in the Hoosier National Forest, southern Indiana



NOW OR NEVER

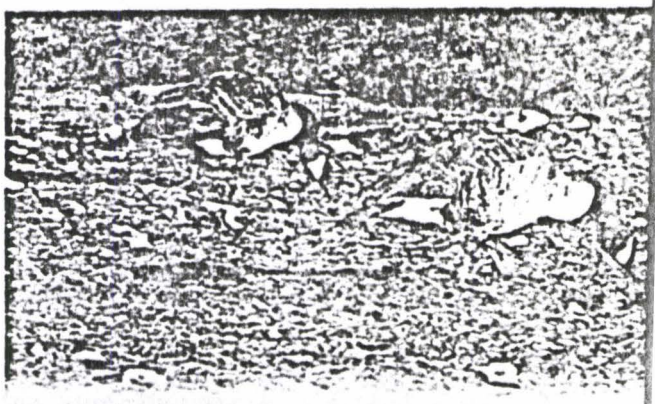


AN EASTERN WILDERNESS—NOW OR NEVER
(continued)

Parts of the proposed Wilderness have not been logged for over 75 years

Sun shines through golden maple leaves in autumn

Students from Indiana University use the area as a natural outdoor laboratory and as a great place for nature hikes



Canada geese feed along the shore of Monroe Reservoir, which adjoins one of the four parcels of the proposed wilderness

Nebo Ridge Wilderness Study Area, was to have consisted of 30,000 acres, 13 percent of which was private land. The owners of the private land banded together and staunchly opposed this first proposal. Wilderness proponents were forced to redraw the boundaries of Nebo Ridge, thus producing the second proposal, the Tecumseh Wilderness Study Area.

"We do not oppose the establishment of a wilderness; we only oppose the inclusion of private property in a Wilderness Area," reads one of the landowning group's pamphlets. In 1976, as a compromise to this objection, the IWC developed the Tecumseh plan, with 95 percent less private land than its predecessor. However, even though less than 1.5 percent of the 29,160-acre Tecumseh proposal was private property, the opposition group, Concerned Citizens about the Nebo Ridge Area (CCNRA), still countered this new plan.

When I visited with William Miller, an active member of CCNRA, I arrived full of cynicism. The facts seemed clear enough: private property owners needlessly feared losing their land, in spite of the ample protection granted them by the Eastern Wilderness Areas Act.

Upon my arrival, Miller invited me to walk to the hillcrest behind his home. I obliged. As I stood alone on the hilltop, the proud solitude of the forest embraced me. A crisp March breeze carried the scent of melted snow and wet earth across the land. Wilderness. My host had made his point. This was too much to risk losing.

"I don't oppose wilderness," Miller stressed. "Wilderness is my backyard. It's why I moved here with my family. But since talk of a Wilderness Area began, the traffic on this dirt road has tripled. If this area became a national attraction, I'd give it all up for lost."

Actually, much of the traffic has been created by nearby Monroe Reservoir (largest in Indiana), rather than by "talk of a Wilderness Area." Intensive use of the area for camping, fishing, and hunting has destroyed an element of this region's beauty. Beer cans and abuse of the land are becoming familiar sights.

An Eastern Wilderness Area would help eliminate such disgraces by placing controls on land use. Under the EWAA, motorized vehicles would be prohibited within the Area, although certain roads would be maintained for use by local residents. If camping, fishing, or hunting were to become too intense, the Forest Service would have the authority to introduce a permit system.

Before 1975, Wilderness status and protection for any land east of the 100th meridian didn't exist. The 1964 Wilderness Act disqualified much of the eastern United States by requiring that "the imprint of man's work" be "substantially unnoticeable" over "at least 5,000 acres of land." Logging and farming activity in the eastern United States has left little land which qualifies.

In order to establish Wilderness Areas east of the 100th meridian, the Eastern Wilderness Areas Act (EWAA) was signed into law on January 3, 1975. The Act immediately formed 15 Wilderness Areas as part of the National Wilderness Preservation System. The EWAA's standards for wilderness status are less strict than the 1964 Act's, but the definitions of wilderness management are equally rigid, placing wilderness as the primary resource.

"I just don't trust the government," one property owner told me.

(Turn to page 36)

Deeply rutted road has resulted from unregulated use of motorized vehicles

Garbage provides another example of the need for wilderness protection in the area

Further manmade strains on Hoosier N.F.: pressures on Forest Service to clearcut

United States, and Mexico.

At Kew a visitor can wander among the widest sampling of plants of the world. This variety is maintained by matching the climate, in and out of glasshouses—English for greenhouses—with environments ranging from the parched desert and cactus of the American west to a wringing-wet rain forest where a visitor's glasses steam up at once. The largest and most beautiful glasshouse in Kew is the Palm House, 363 feet long and 62 feet high, its iron frame sheathed with thick, curving plates of glass. It was four years in the building, from 1844 to 1848. In addition to palms, it holds coffee, cocoa, bananas, bamboos, and numerous other tropical trees and shrubs.

The rich variety of plant forms and foliages extends through the moist and hot Aroid House, the Filmy Fern House, the Orangery, the Temperate House, the Tropical Fern House, the Temperate Fern House, the Conservatory, the Succulent House, Australian House, Alpine House, the numerous T-Range Houses containing representation of the Mojave Desert and African Desert and plants of tropical America, houses of orchids, of pineapples, the hot and humid home of the giant waterlily and stove plants, the house of insectivorous plants.

Among other structures are the Jodrell Laboratory for identification of the world's plants, the Wood Museum displaying timber specimens and wood craftsmanship, the General Museum of Economic Botany, the Reference Museum, the Queen's Cottage, Kew Palace, and the Marianne North Gallery.

Outdoors are the creations of generations of expert gardeners and landscapers—walks, ponds, a lake, fountains, statuary, vistas, gardens of roses, iris, azaleas, rock garden, Medicinal Gardens, Barberry Dell, the Himalayan Rhododendron Valley, the Aquatic Garden, the Bluebell Woods, Japanese Gateway, and others.

And there are groves called "collections" of trees: oaks, elms, poplar, chestnut, tuliptree, beech, birch, conifers, shrubs.

Among the real Kew antiquities of buildings and plantings are some artificial grandeurs which today bring amused or indulgent smiles. A fad of 18th-century noblemen was a requirement that gardens have hoary ruins. Kew has a Ruined Arch, built in 1760 to look like something left by the early Romans. The same fashion created the Orangery; the Temple of Bellona; and the beautiful slender Pagoda of 1761, 163 feet tall, standing at the end of a lovely vista. Preserved as it was in the 1770s—with the same flowers in formal beds—is the Queen's Cottage Garden, created as a place for the wife of George III and her ladies to take their picnic baskets.

The Kew flagstaff is a single stick of Douglas-fir from British Columbia, about 15 stories tall—230 feet. Admission to the Royal Botanic Gardens, Kew, is one penny. ■

An Eastern Wilderness—Now or Never *(From page 25)*

"They'll find a way to get my land if they want it, with or without your wilderness laws!"

Actually, the EWAA ensures that all private property owners in a Wilderness Area may keep their land, sell to a private party, or pass it on to their heirs. The owners may continue farming and living on their property so long as they do not introduce land use which is "incompatible" with the surrounding Wilderness Area. It is the ambiguous word "incompatible" which locals fear could be used to justify forced land condemnation.

Although the Hoosier National Forest has never forced a land sale, the federal government's reputation for land acquisition in this area of southern Indiana is poor. During the development of Monroe Reservoir, allegations were raised that the U.S. Army Corps of Engineers was selling condemned farmland for much more than they had paid the uprooted farmers. Resentment of federal land dealings began smoldering with local residents.

The Nebo Ridge proposal of 1973 ignited this resentment into a vehement cry for private property rights. Ironically, the land developers, already rooted along the shores of Monroe Reservoir, have escaped this wrath. While land speculators eye these wooded hills, residents battle the protectors rather than the exploiters of the wilderness.

"Our aim now is to eliminate all or as much private land as possible from any Wilderness Area we propose," stated Marvin Doliana. "For everyone's sake, we want to see this become a Wilderness Area. A wilderness experience is every American's right, and you shouldn't have to drive two days to have one."

Hoosier and RARE II

Early this year the Forest Service chose three Indiana areas (Salt Creek, Cape Hollow, and Mogan Ridge) for wilderness consideration under phase II of RARE II. Nebo Ridge, however, was left out. The Indiana Wilderness Committee is continuing to lobby Congress to declare the area a wilderness under the Eastern Wilderness Areas Act, while other groups are pushing to have the area included in RARE II.

A Forest Service spokesman told AMERICAN FORESTS that Indiana environmentalists' concerns are being given full consideration: "We have been trying to stretch as far as we can to meet those needs."—*Ed.*

During the spring of 1977, the Indiana Wilderness Committee announced a new Wilderness Area proposal. This most recent proposal has eliminated all but 100 acres of private land, most of which is inaccessible or unoccupied. In eliminating most important roads and private land from their new proposal, the IWC has split the Wilderness Area site into four separate but adjacent parcels totalling about 30,000 acres.

The CCNRA has officially opposed this latest proposal. They point out that most Eastern Wilderness Areas average 8,000 acres and that therefore the Indiana tract would be far too large. The IWC contends that many of the smaller Wilderness Areas have faced overuse problems and required permit systems in order to maintain the wilderness' integrity. They believe that 8,000 acres (the size of the CCNRA's compromise proposal) is not enough.

Wilderness opponents ask, "Do we need a Wilderness area? Isn't it enough that this is Forest Service land?"

Evidently not. As normal Forest Service land, all of the proposed Wilderness Area is presently subject

to the Multiple Use-Sustained Yield Act of 1960. It is impossible for the Forest Service, faced with political pressures from all sides for multiple land use, to place wilderness as the primary consideration. The EWAA would enable the Forest Service to do just that: preserve wilderness for recreation and the land's own inherent value.

Wilderness Area management would prevent any "cutting of trees for nonwilderness purposes," thus prohibiting commercial logging. Mineral-rights leasing would be illegal, except for those leases already in effect. (In such cases, the leases would be nullified as of 1984. At present, no leases are in effect on the land in question.) All of the proposed Wilderness Area would be exempt from the Multiple Use-Sustained Yield Act; instead, it would be managed for one purpose only: wilderness.

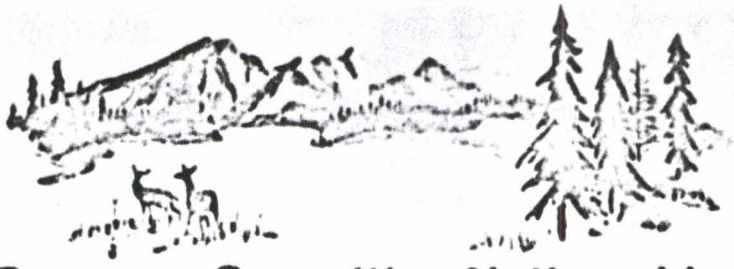
Remarkably, one-third of the area has not been logged for more than 75 years. Oak-hickory and beech-maple forests dominate these woods. The area is part of a larger region called the Norman Uplands. The Uplands of southern Indiana are characterized by their water-carved limestone and sandstone hills. In turn, the Uplands are part of an even larger territory known as the Midlands. The Midlands mark the transition zone from the southern forests to northern prairies and from the Appalachians to the Ozarks.

These hardwood hills flush crimson and gold each autumn. Slumbering through winter under a blanket of brown leaves and white snow, they reawaken in spring cloaked in the misty green of young buds. Crisp spring air stirs the area's wildlife, from fox to deer to hawk. The fragrance of crabapple blossoms floats among the glens. And human visitors once again realize what is so special about this rugged woodland.

Too much to risk losing?

I think back to that afternoon on the hillcrest behind Bill Miller's home. I sensed something besides the proud solitude of those hills. I sensed a voiceless appeal for protection—protection from man's excesses and abuses. A Wilderness Area would save this land for resident and visitor alike. Present and future.

Only man can give the voiceless wilderness her speech. Only wilderness can give restless man his peace. ■



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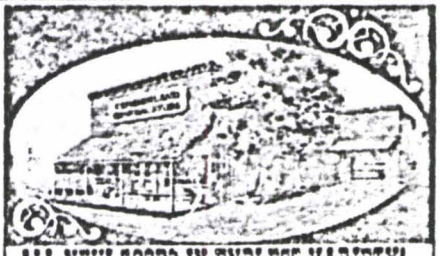

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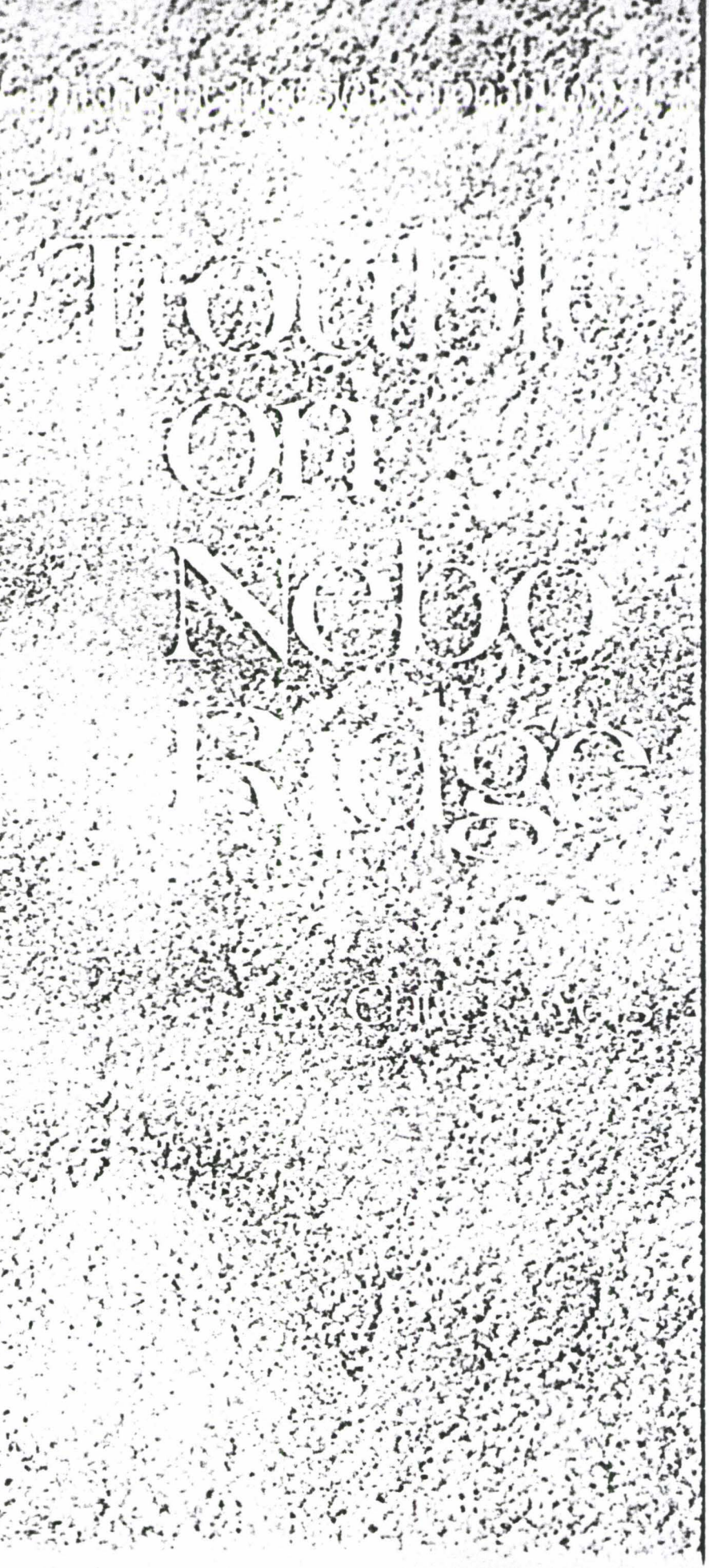
EXHIBIT II



The hills of southern Indiana present an unlikely stage for a battle over wilderness. But with the passage of the Eastern Wilderness Act in 1975 the lines were drawn and the fight was on. At the heart of the issue is the future of an approximately 32,000-acre stand of mixed hardwoods known as the Nebo Ridge area of the Hoosier National Forest.

If the hardwoods are mixed, so is the cast of characters. There is the Forest Service, the conservationists, timber interests, hunters, off-road vehicle owners, horsemen (or horsepeople if you prefer), a host of private landowners, and even the Army Corps of Engineers. Add them all together and you have a classic study of the problems involved in creating wilderness where, at least in a traditional sense, it doesn't already exist. You also have one inescapable conclusion. Where there are the ingredients for a fight over wilderness, there is also the potential for backpacking and backcountry camping.

My first encounter with the Hoosier came quite by accident. I was taking an advanced course in forest recreation...more as a spectator curious to discover what future forest managers were being taught than as a serious student. One of our assignments was to trek Nebo Ridge, assessing its wilderness potential and talking with those who were already involved in the heated debate over the area's future.

So off I went, armed with the certain knowledge that wilderness was inherently good and anything or anyone which stood in its way was inherently evil. My education was about to begin. I was, in short, set up for a number of rude awakenings.

The first involved the Hoosier itself. I'd lived with it in my own backyard for 15 years and had no idea of its potential. This particular bit of ignorance was shared with most midwestern backpackers and most residents of Indiana.

The Forest is made up of three purchase units in the southern third of Indiana. The Ohio River sets the southernmost boundary and Monroe Reservoir, Indiana's largest completely contained body of water, the northern. But a look at the map can be deceptive. The traditional green shaded area designating National

Forest shows about 644,000 acres. That is a sizable chunk in a state that is traditionally thought of as corn, hogs and one 2½-mile paved race track. It is also considerably more than the Hoosier actually encompasses. Nearly 3/4 of the land contained within those boundaries is private. The government lists 178,943 acres as under National Forest management. That is still enough to support a goodly amount of outdoor recreation.

The Pleasant Run purchase area, the northernmost, finds the heaviest recreational use. You don't have to search far to find the reasons. Heading the list is a reservoir that attracts hundreds of thousands of people to the area each year. Fortunately for the wilderness devotee, few of those ever find their way past the immediate confines of the lake. They're the Winnie-folks and the water skiers and the people who do their fishing from bass boats complete with sonar. They don't mix with wilderness, Eastern or otherwise.

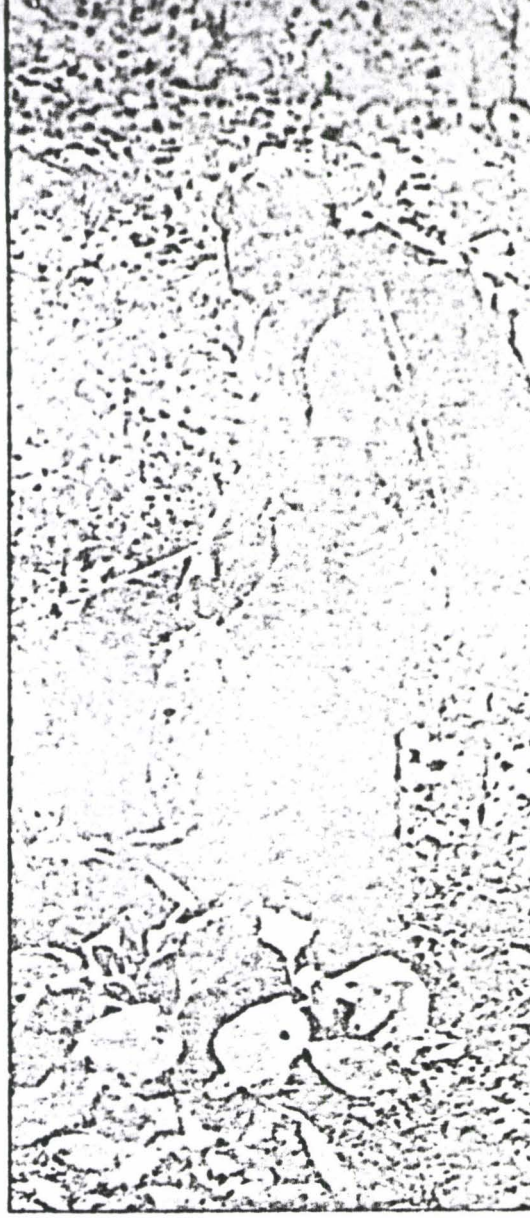
The second reason for the popularity of the northern unit has direct bearing on its wilderness potential. It encompasses the largest solid blocks of Forest Service-owned land in the Hoosier. It is here that the backcountry traveler can shoulder a pack with the least likelihood of tripping over his fellow man—either like-minded backpacker or private property owner concerned, *and rightfully so*, about trespass.

It is this area, commonly and somewhat inaccurately dubbed Nebo Ridge, with which we'll concern ourselves. It is here that the potential for, and the battle over, wilderness designation centers. And it is here that the backpacker finds an as yet largely undiscovered mecca within easy drive of a number of major population areas, including Chicago, Louisville, Cincinnati and Indianapolis.

Nebo Ridge as a definition of potential wilderness is actually four areas. There is Nebo, and nearby Grubb Ridge, and Copes Hollow. Separate and further to the south is Logan Ridge. Combined, they offer the potential, according to the most optimistic proposals, for 32,000 acres of wilderness. If that acreage were actually designated, it would make the Hoosier one of the two largest wilderness areas outside of National Park Service lands in the Eastern United States.

"It's a classic story of man and nature and it's all right here for you in the Hoosier."

—District Ranger Frank Haubry—



The land itself is characterized by second-growth hardwood forests, long, narrow ridgetops, steep hillsides and narrow valleys. The Forest Service describes the soils as well-suited to growing trees but relatively infertile and highly acid. In short, where trees grow well, crops don't necessarily follow. Much of the acreage now part of the National Forest was originally in the hands of farmers who simply couldn't force a living from the poor soil. In the depression of the 1930's they gave up and their land was sold for taxes.

Today, a part of the intrigue of the Hoosier is a result of its past heritage. The Forest Service has let nature take its course in some areas and replanted in others. As a conse-

quence, diversity is a keynote. Small pine plantations add their greens to the mix of the native hardwoods. In autumn, the combination of colors is little short of spectacular.

The mix of forest and field edge provides a home for grouse (one of the few in Indiana), and wild turkey have been successfully reintroduced. All told, 272 species of bird make the forest their home. Of mammals, 48 have been recorded. Deer are the largest.

The Forest Service is in the final stages of completing a 20-mile loop trail starting and ending at the Hickory Ridge Fire Tower. Designed exclusively as a foot path, the trail will lead hikers northward, alternating between draws and ridge tops and rimming arms of Monroe Reservoir. Panoramas of the man-made lake and the Indiana countryside are numerous. Although rugged by Indiana standards, there is no more than 350 feet difference between ridgetop and bottom land.

The Hickory Ridge Trail is the only designated backpacking trail in the area at this time. Many hikers, armed with topo maps and compass, make use of the extensive network of abandoned country road right-of-way and of logging roads. Others simply take off cross-country, making use of roads, abandoned or otherwise, only when convenient.

Hiking in the off-season offers special rewards. In spring, the sponge mushroom provides a succulent bonus for the sharp-eyed traveler. In the fall, a chance encounter with a persimmon tree can add a gourmet's touch to a campfire meal. In any season, hikers are well advised to carry their own water; potable water is not generally available in the backcountry.

A part of the attraction of the Hoosier is its limited use. Forest Service figures show 31,000 visitor days during 1977. Officials are quick to point out that the figures are based on random studies and offer simply an approximation. They also include dayhikers as well as backpackers. It is estimated that, all told, slightly more than 50,000 people took to the backcountry on foot during the past year.

Considering the acreage involved, District Ranger Frank Haubry sees little danger of overuse. Most users agree. If you look at the maximum acreage being proposed for wilderness, that is fewer than two hikers per acre per year. It is quite possible to take to the trail and lose all sense of civilization.

Still there is concern as to what will happen to the use patterns if wilderness designation does occur. Haubry says the impact of wilderness is now an unknown factor. Yet he does not discount the possibility that usage would jump dramatically with such a designation.

Dr. Douglas Knudson, a forest recreation specialist with Purdue University, goes one step further. He says there would be a significant increase in traffic. "Designating an area as wilderness, at least in the beginning," says Knudson, "attracts the collectors of wilderness."

Even without designation, usage is on the upswing. According to the Forest Service, there has been a 10 per-cent increase in trail use for each of the past three years. Other recreational demands are also increasing.

Forest managers are not the only ones watching the number of visitors climb. As area residents drive the forest roads, they notice the increase in litter. Certainly backpackers don't litter. Neither do horsemen, nor motorists, nor the locals. Each group is quick to point the finger in the other's direction. Still, the litter continues to collect along the lanes and roads.

So off I went, armed with the certain knowledge that wilderness was inherently good and anything or anyone which stood in its way was inherently evil. My education was about to begin.

If you hike an area, you should know something of its natural history, and "natural," in its broadest concept, includes man. In hiking the Hoosier, stop and talk to the natives. There is something real about "Hoosier Hospitality," and the time

spent in conversation may well hone your view to the problems associated with "Eastern wilderness."

At the end of a dirt lane in the Nebo Ridge area is a small log cabin. One room and loft, it captures in its combination of the comfortable and the primitive that which many cabin owners seek but few achieve. From the front porch, Harry and Jeanette Hollis look out over a woodland setting that tranquilizes and restores.

Right here I should offer a warning. It is easier to carry a banner of maximum wilderness for the Hoosier if you don't know the Hollises. Harry is retired from a job in nearby Bloomington. Both he and his wife have befriended many a backpacker who has strayed across the invisible boundary between government and private land. They've offered water, directions, and, when the hour is late, permission to camp. Yet, both have been in the forefront of the fight to prevent wilderness designation for Nebo Ridge and to preserve the rights of the private landowner.

The Hollises are quick to point out that they do not object to wilderness *per se*. In fact, they support wilderness designation for the more than 6,300 acres of Grubb Ridge. It is government infringement on the rights of landowners such as themselves that has prompted them into the fight. They feel that property owners should participate fully in any decision. They also feel that the pro-wilderness forces have made every effort to by-pass such local involvement.

There is another major concern facing the Hollises and people like them. The federal bills designating and defining wilderness provide only broad guidelines. "We each have an interpretation of wilderness," say the Hollises, "but the final interpretation is left to the Forest Service. We don't know if they'll condemn our land or what restrictions they will place on how we use it."

Ranger Haubry is sympathetic to that doubt. "They (the landowners) are opposed to private land going into wilderness under threat of condemnation," says Haubry. "We tell them that we have no intention of obtaining land by condemnation," he adds. "All purchases will be on the basis of willing seller-willing buyer. Yet, the Corps of Engineers did go through and condemn to build Monroe Reservoir and so did the State to obtain Brown County State Park. They've been through it twice already and there's more than a little mistrust about any government agency."

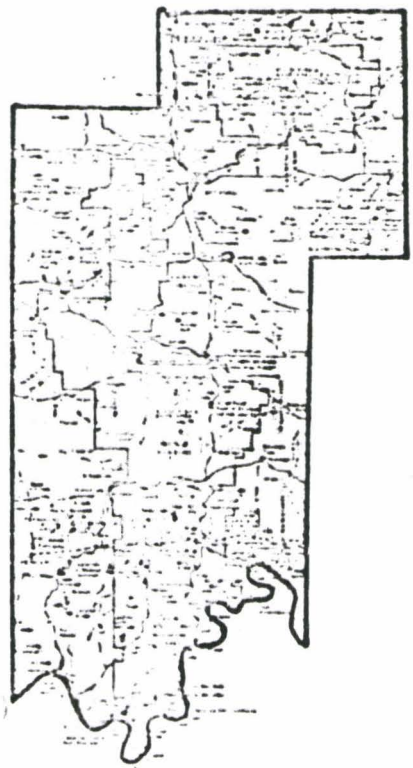
Another aspect of that mistrust finds its roots in a small and almost indistinguishable graveyard on a heavily wooded hillside. No roads lead to this burial site and no plastic flowers profane the area. Nature is the only caretaker. The unobservant passerby could easily miss the leaf-covered depressions and mistake the rough stone markers for natural. If a hiker chances upon it, he'll find one commercial marker. It bears a family name.

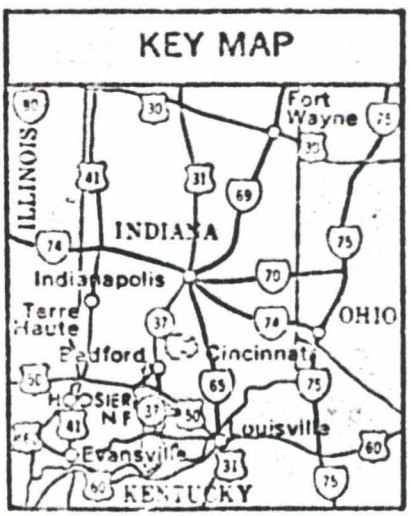
Several ridges and several miles away a mailbox on a deadend lane bears the same name. A farmer in his seventies pauses from the task of coaxing a living from soil too poor to provide one. Most of the farmer's education has come from the land he tills. Of the Constitution he knows two points. It gives him the right to own land and to bear arms. In 1978, the two are closely related.

He, too, finds no objection to wilderness. Yet, how can this corn field and this melon patch, squeezed between the steeply banked woods, be wilderness? His family for generations past has worked this land. Now his sons live nearby and raise their sons. The land is all that there is to be passed from one generation to the next. "Wilderness," he says, "is fine, but this is farm land. If they force me to leave, I'll torch my land. If they force me out, there will be bloodshed and the forest will burn...and there are others who feel the same."

Back at the cabin, the Hollises are sympathetic, not with the threat of bloodshed or of fire, but with the basic dilemma. "Wilderness," they point out, "is something they have been conquering all these years. Now it is suddenly something worth saving...something that takes precedence over a life's work."

There are other considerations. The Hollises say that what they fear most is fire of a different sort. Those





How can this corn field and this melon patch, squeezed between the steeply banked woods, be wilderness? His family for generations past has worked this land. Now his sons live nearby and raise their sons. The land is all there is to be passed from one generation to the next.

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who stray onto their property are not always trailwise or careful. As the number of visitors increases, so will the number who are careless.

Despite the concerns of property owners, Frank Haubry sees the major people-to-people conflicts coming not between users and property owners but between users and users. He identifies three basic groups: the wilderness advocates (including hikers), the horsemen, and the ORV people.

Off Road Vehicles have, to a large extent, been contained. Only designated trails or public roads are open to the motorized traveler. Still, a number of dedicated roads have been all but abandoned over the years. Even though a lane may support a substantial growth of young trees in its center, that is not a sign that it is not public roadway and, as such, open to motor vehicles.

In Monroe County Haubry has been able to work with local officials and all abandoned roads have been turned over to the jurisdiction of the Forest Service. Similar agreements are being attempted with other counties in the affected area, but progress is slow.

The roads point to another problem with wilderness designation: cemeteries. With the exception of that small, peaceful burial plot nestled unobtrusively on the side of a hill, the Forest Service is obligated to maintain road access to those cemeteries. One is located near the center of an area that otherwise is a prime candidate for the wilderness designation.

Can a wilderness support a cemetery and a road and still be wilderness, even of the Eastern variety? That is one of many questions which remain to be answered before Nebo Ridge and its environs can take their rightful place in the federal management plan.

The question of horses and those who ride them is more easily settled. It is highly unlikely, however, that solution will come without a fight. If backpackers have been slow to discover the potential of the Hoosier National Forest, horsemen have not. Particularly in the fall of the year, when the mixed woods support a fiery display of autumn color, riders from throughout the Midwest descend in number for weekend trail rides. One particular ride brings more than 500 riders and their mounts to the Hoosier.

With the completion of the 20-mile backpacking trail, Haubry sees control of the horseback riders as his major priority. Two permanent horse trails are to be constructed, one in the Pleasant Run area and one in the Lost River. Once those trails have been completed, horse traffic will be restricted to them and to the public roads. It is likely that riders will resist such restriction on their right to roam, but Forest Service personnel will have the tools to monitor and to counteract the damage caused by the four-footed beasts.

I have somehow wandered far from a simple statement of the backcountry potential of the Hoosier National Forest. Some would argue that the very recognition of that potential is the act that will ultimately lead to its destruction.

Since this article was written, the Secretary of Agriculture has recommended that Congress designate two sections of the Hoosier National Forest, Copes Hollow and Grubb Ridge, as wilderness areas under the terms of the Eastern Wilderness Act. Between them they total 9,909 acres. Conspicuously absent from the recommendation is Nebo Ridge. The Hoosier Chapter of the Sierra Club has chosen not to actively challenge the exclusion in order not to jeopardize other successes. Pointing out that the latest proposal for Nebo (about 30,000 acres) contained only 95 acres of private land and no homes, the Sierra Club has echoed Prof. Knudson's contention that the Ridge should be managed as wilderness to preserve the qualities that would make it eligible for designation some time in the future.

The potential is real. Whether it is the potential for 32,000 acres of wilderness as argued by the conservationists or for the 15,000 acres that have been identified by the Forest Service in the RARE II inventory remains to be seen.

In either event, someone will lose something. If maximum wilderness wins, the grouse and the turkey will move out. So will the timber operator and surprisingly, the hardwood harvest is important in Indiana. But as Frank Haubry puts it, "We'll also gain. We'll eventually have large, mature stands of trees that we

otherwise wouldn't have had. It all involves trade-offs in one form or another."

There is another tradeoff you should understand. Along with the grouse and the turkey, the old farmer and his neighbors will go. They are as much a part of Nebo Ridge as the birds, animals and trees. And once gone, they will never return. Those who would work a living from the unyielding soil of the hill country are, in themselves, an endangered species.

Hike the Hoosier. It is well worthwhile, but hike it with your eyes and ears open. In Hanbry's words, "There's a lot of beautiful scenery here. And you can see a record of evolution. From the old, abandoned home and farm sites where the yucca plants are, to the historic old cemeteries and family plots. See where death would take four or five children from a family back in the 20's and 30's and know in your heart that it wasn't easy to scratch a living from these ridges. Then, turn right around and see the hardwoods that have taken over, and the wildlife and a lot of beautiful wildflowers. It's a classic story of man and nature and it's all right here for you in the Hoosier."

Just what the future holds in the way of wilderness for the Hoosier remains uncertain. The potential is certainly there. Professor Knudson sees a time span of at least 10 years if the maximum is to be realized.

He offers a three-point plan. First, push for wilderness designation for the 15,000 acres identified in the RARE II inventory. Then establish a policy of buying private land as it becomes available. Finally, when the necessary solid blocks of land are under the control of the Forest Service, take the necessary action to obtain wilderness designation.

"In the meantime," Knudson says, "the land should be managed as potential wilderness under special scenic or recreational designations. That would eliminate any temptation to open the area to timber harvest."

A ten-year plan may be too slow to satisfy those who demand instant wilderness. It may be too fast for some affected property owners. Still, it seems a workable compromise which will eventually lead to maximum preservation.

During those years, the Hoosier National Forest will continue to offer good, and hopefully uncrowded, backpacking opportunities. □

For Your Information

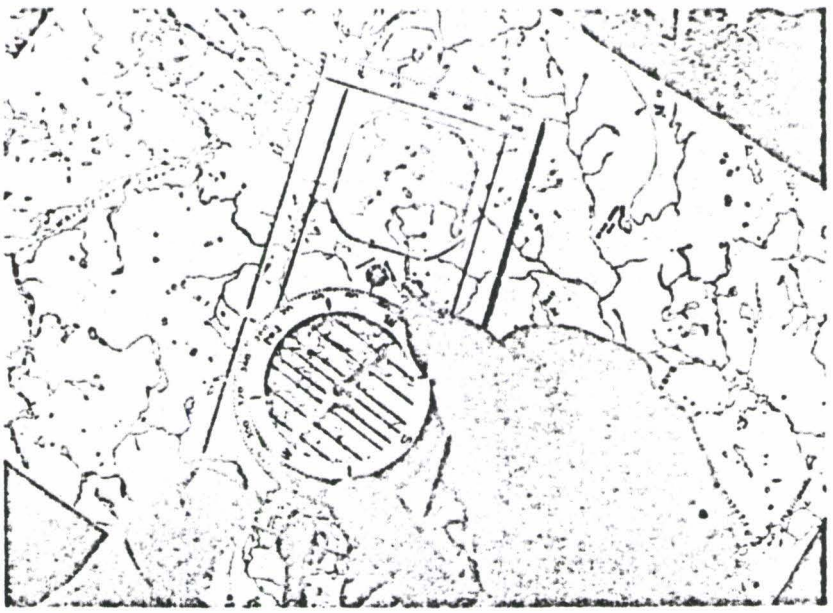
The Hoosier National Forest offers prime backcountry recreation opportunities in an area that most people would pass over without a glance. For more information on this diverse area in southern Indiana, drop a note to:

Forest Supervisor's Office
Hoosier National Forest
Bedford, IN 47421

Note also that the Bedford office manages the Wayne National Forest in southern Ohio as well. The Wayne National Forest—three separate parcels bordering or proximate to the Ohio River—is particularly rich in Native American history and American frontier history. There are hiking opportunities in the Wayne, in Zaleski State Forest, and in a veritable gaggle of other state forests.

Both the Hoosier and the Wayne are close to some excellent canoeing streams as well—another thing most folks don't anticipate in Indiana and Ohio.

Information on the Wayne NF is available on request from the Bedford office of the Forest Service.



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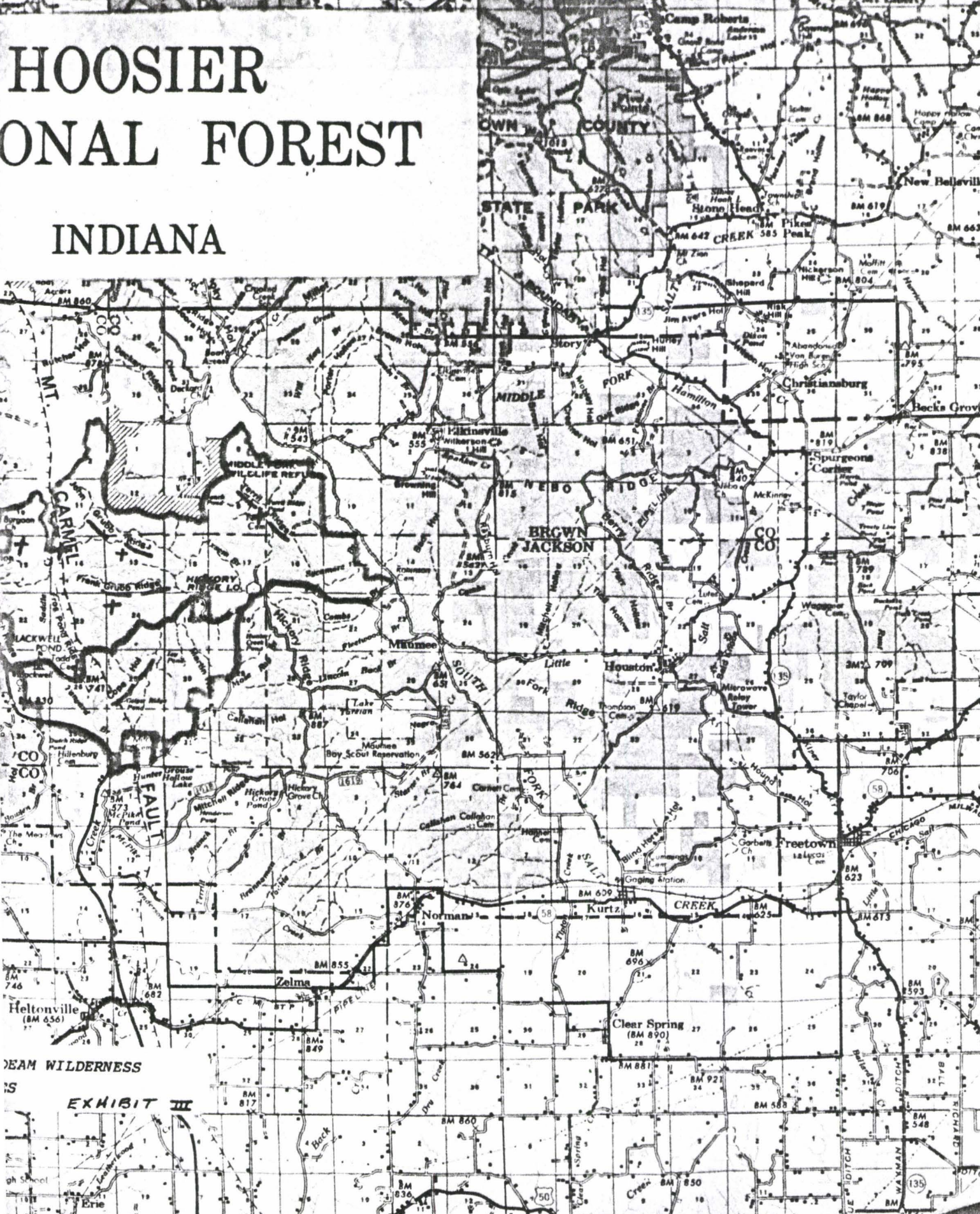

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CEMETARIES
EXHIBIT III

TOTAL DISCOUNTED RATES FOR BENEFITS & COSTS FOR 10 YEAR PERIOD 1982-1991 BY ALTERNATIVE DISCOUNTED @ RPA RATE 4%

ALTERNATIVE A

YEAR	BENEFITS	COSTS
1982	$663,332x.96154=$637,820	$39,593x.96154=$38,070
1983	$663,332x.92456=$613,290	$39,593x.92456=$36,606
1984	$663,332x.88900=$589,702	$39,593x.88900=$35,198
1985	$663,332x.85480=$567,016	$39,593x.85480=$33,844
1986	$663,332x.82193=$545,212	$39,593x.82193=$32,543
1987	$663,332x.79031=$524,238	$39,593x.79031=$31,291
1988	$663,332x.75992=$504,079	$39,593x.75992=$30,088
1989	$663,332x.73069=$484,690	$39,593x.73069=$28,930
1990	$663,332x.70259=$466,050	$39,593x.70259=$27,818
1991	$663,332x.67556=$448,121	$39,593x.67556=$26,747
	TOTALS $5,380,218	$321,135

BENEFITS/COST RATIO $5,380,218/$321,135= 16.75

ALTERNATIVE B

YEAR	BENEFITS	COSTS
1982	$663,332x.96154=$637,820	$39,593x.96154=$38,070
1983	$655,012x.92456=$605,598	$100,493x.92456=$92,912
1984	$655,012x.88900=$582,306	$72,493x.88900=$64,446
1985	$655,012x.85480=$55,904	$72,493x.85480=$61,967
1986	$655.012x.82193=$538,374	$72,493x.82193=$59,584
1987	$655,012x.79031=$517,663	$72,493x.79031=$57,292
1988	$655,012x.75992=$497,757	$72,493x.75992=$55,089
1989	$655,012x.73069=$478,611	$72,493x.73069=$52,970
1990	$655,012x.70259=$460,205	$72,493x.70259=$50,933
1991	$655,012x.67556=$442,500	$72,493x.67556=$48,973
		$582,236
	TOTALS $5,320,738	

BENEFIT/COST RATIO $5,320,738/$582,236 = 9.14

ALTERNATIVE C

YEAR	BENEFITS	COSTS
1982	$663,332x.96154=$637,820	$39,593x.96154=$38,070
1983	$452,939x.92456=$418,769	$142,876x.92456=$132,097
1984	$452,939x.88900=$402,663	$89,376x.88900= $79,455
1985	$452,939x.85480=$387,172	$89,376x.85480= $76,399
1986	$452,939x.82193=$372,284	$89,376x.82193= $73,461
1987	$452,939x.79031=$357,962	$89,376x.79031= $70,635
1988	$452,939x.75992=$344,197	$89,376 x.75992=$67,919
1989	$452,939x.73069=$330,958	$89,376 x.73069=$65,306
1990	$452,939x.70259=$318,230	$89,376 x.70259=$62,795
1991	$452,939x.67556=$305,987	$89,376 x.67556=$60,379
	TOTALS $3,876,042	$726,516

BENEFIT/COST RATIO $3,876,042/ $726,516 = 5.34

ALTERNATIVE D

YEAR	BENEFITS	COSTS
1982	$663,332x.96154=$637,820	$39,593x.96154= $38,070
1983	$727,682x.92456=$672,786	$153,829x.92456=$142,224
1984	$727,682x.88900=$646,909	$100,329x.88900= $89,192
1985	$727,682x.85480=$622,023	$100,329x.85480= $85,761
1986	$727,682x.82193=$598,104	$100,329x.82193= $82,463
1987	$727,682x.79031=$575,094	$100,329x.79031= $79,291
1988	$727,682x.75992=$552,980	$100,329 x.75992= $76,242
1989	$727,682x.73069=$531,710	$100,329 x.73069=$73,309
1990	$727,682x.70259=$511,262	$100,329x.70259= $70,490
1991	$727,682x.67556=$491,593	$100,329x.67556= $67,778
		$804,800
	TOTALS $5,840,281	

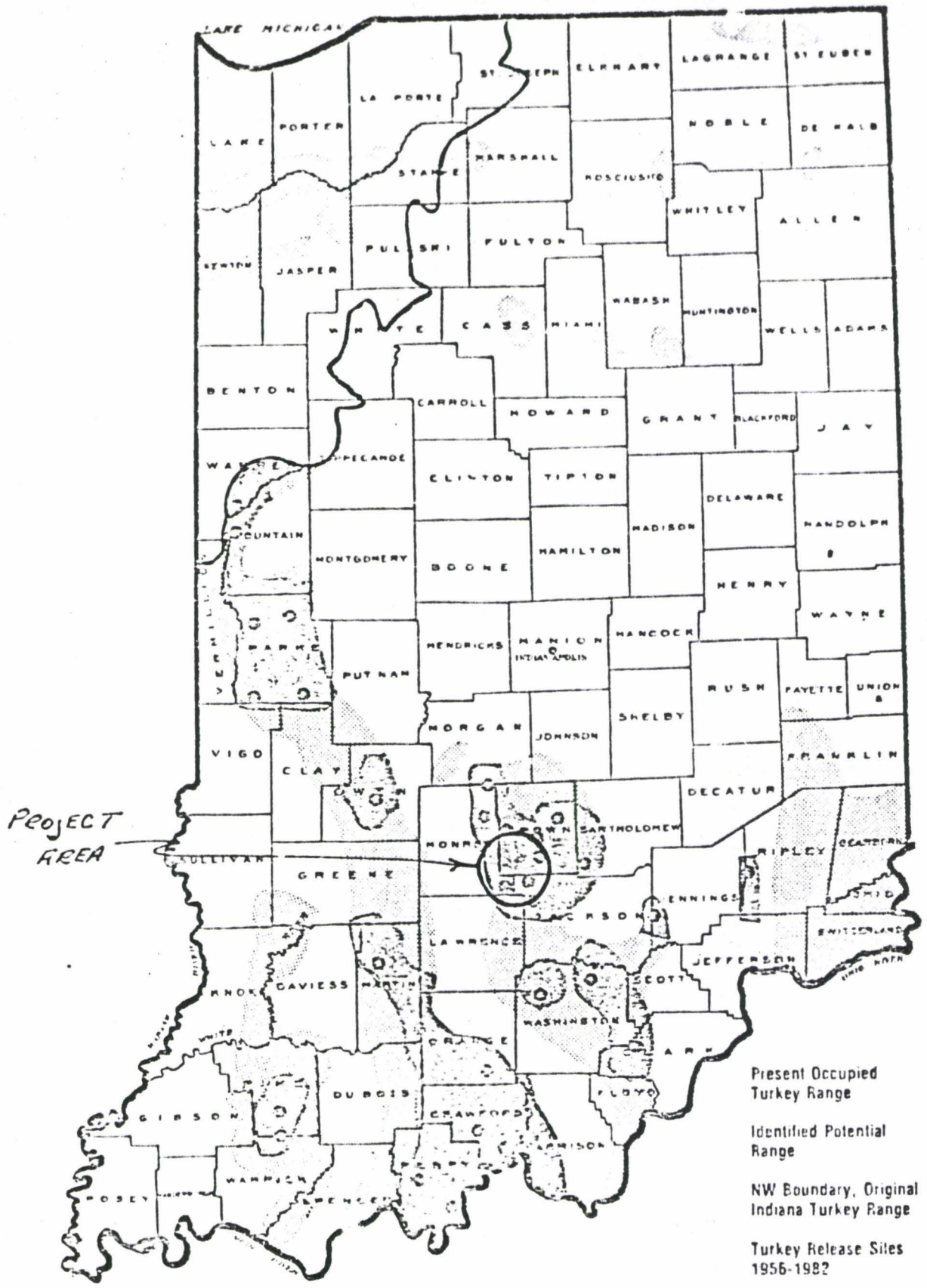
BENEFIT/COST RATIO $5,840,281/ $804,800 = 7.26

NOTE: The economic analysis used in this project presents and compares discounted priced benefits against Forest Service costs associated with each of the alternatives. This provided the present net value (PNV) of each alternative.

EXHIBIT JK

INDICATES Typical Hunting Pressure Zones

INDIANA'S 1982 WILD TURKEY RANGES



OCTOBER '82

EXHIBIT X

TABLE 37

INDIANA OUTDOOR RECREATION
NEEDS BY ACTIVITY
STATE SUMMARY

Land Based Activities:	Units	1970	1975	1980	2000
Picnicking	Acres	- 1,504	- 2,347	- 4,596	- 8,514
	Tables	- 14,950	- 22,314	- 41,542	- 74,786
Camping	Acres	- 593	- 1,035	- 2,490	- 5,366
	Campsites	- 5,075	- 9,280	- 22,375	- 48,259
Golf	Acres	- 8,863	- 20,475	- 39,040	- 73,726
	Holes	- 1,042	- 2,407	- 4,592	- 8,673
Snow Skiing	Acres	- 670	- 825	- 999	- 1,273
	Slopes	- 268	- 330	- 399	- 509
Playgrounds	Acres	+ 22	- 222	- 874	- 3,850
Playfields	Acres	- 11,274	- 15,489	- 23,514	- 40,439
Bicycling	Miles	- 1,141	- 1,492	- 1,961	- 3,469
Horseback Riding	Miles	- 676	- 914	- 1,261	- 1,989
Hiking	Miles	+ 314	+ 303	- 16	- 652
Nature Walks	Miles	- 233	- 307	- 387	- 529
Hunting	Acres	- 47,406	- 70,420	-100,224	-198,475
Water Based Activities:					
Swimming	Acres	- 33	- 163	- 411	- 988
Fishing	Acres	+130,145	+129,746	+121,156	+ 89,011
Boating	Acres	-270,865	-412,276	-587,682	-932,940
Water Skiing	Acres	- 94,958	-155,728	-228,303	-447,656
Canoeing	Miles	- 98	- 235	- 393	- 694

EXHIBIT VI

EXHIBIT VII

Historical Information - Use Data

1974 - 1982

Fiscal Year	Hiking	Horseback Riding	Hunting All	Primitive Camping	Gathering Forest Products
1974	4,200	1,000	4,400	15,500	4,300
1975	9,300	1,000	4,400	15,500	4,300
1976	9,300	1,000	3,500	15,500	4,300
1977	12,000	2,200	12,400	15,100	4,400
1978	12,100	2,400	12,900	15,000	4,600
1979	12,300	2,700	12,200	14,400	4,100
1980	12,500	9,800	14,500	14,800	4,000
1981	14,300	18,800	14,100	16,700	4,000
1982	14,800	20,700*	14,300	19,300	4,000

All figures are in Recreation Visitor Days (R.V.D.'s) and were taken from RIM files on the Brownstown Ranger District, Hoosier National Forest.

*1980 increase due to actual count and more accurate sampling methods - 1981 was completion of Blackwell Horsetrail system.